

The JOURNAL

of the Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOLUME 40

MARCH, 1941

NUMBER 3

Self-Inflicted Injuries in Civil Practice*

By Deryl Hart, M.D.

Durham, North Carolina



J. DERYL HART, M.D.
Professor of Surgery, Duke University, School of Medicine; in Charge of Surgical Department, Duke Hospital, Durham, North Carolina. Author of numerous medical publications.

SELF-INFLECTED injuries are seen by general practitioner and specialist alike and are probably more frequent in occurrence than is generally suspected. This statement is based on the fact that most of the cases seen by me have been under observation either in a hospital or in the home for from a few weeks to several months or years before they have come under my care. In most cases the diagnosis has not been suspected or made, primarily because it has not been considered. The safest rule is to mistrust any patient who has a lesion which fails to heal when given appropriate treatment. This presupposes proper consideration of the underlying pathology, such as sinus tracts, fistulae, improper drainage, anaërobic, tuberculous or fungus infections, etc.

No consideration will be given to the relatively common major psychic disturbances which lead to self-injury or attempts at self-destruction.

*From the Department of Surgery, Duke University School of Medicine, and Duke Hospital, Durham, North Carolina.

I will also omit any consideration of injuries inflicted to avoid liability for military duty since I have had no experience with them. Only two cases will be presented in which financial gain played a rôle. The other patients reported may have received a gain in the form of sympathy, relief from unpleasant duties, or satisfaction in mystifying or confounding their relatives, friends, or physician. Some were evidently feeble-minded, while others were at the age of puberty at which time they may be more subject to mental strain. The principal interest in this presentation lies in the individual case reports so further discussion will be reserved until after these are given.

Case 1.—The patient, a seventeen-year-old white girl, was admitted to Duke Hospital on September 13, 1937, complaining of bilateral axillary "boils" which had been present for the past two years.

In the summer of 1935 a large "boil" near the right axilla was incised and healed promptly. In November of the same year another "boil" appeared in the left axilla and since that time the patient has never been free of "boils" under both arms.

The general examination was negative except for the manner of the patient, who was shy and retiring. In both axillae were numerous old scars and sinus tracts from previous "infections" and incisions. Several of these sinuses were draining a slight amount of pus, but there was no evidence of an acute inflammatory reaction.

All laboratory studies were negative except for cultures which showed only the *Staphylococcus aureus*. It was impossible to find any evidence of tubercle bacilli, fungi, or anaërobic organisms.

The draining sinus tracts were laid open and the granulation tissue curetted out. Pathological studies showed only a chronic inflammatory reaction. At this time it was noted that there were subcutaneous fistulae lined with epithelium beneath each breast (Fig. 1). The patient had given no history of any "infection" in this location and had not confided their presence to her mother, who brought her to the hospital and

who was familiar with the recurring lesions in each axilla. On questioning she admitted that she had had lesions beneath the breasts similar to those in the axillae. In the axillae there were likewise numerous

the hospital immediately so that she could again be placed in a cast with the arms extended.

The patient has remained well since these instructions were given.



Fig. 1.



Fig. 2.

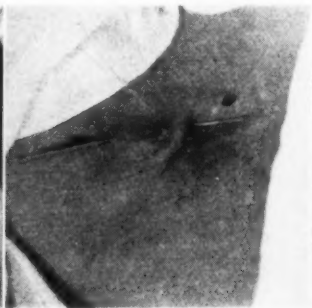


Fig. 3.

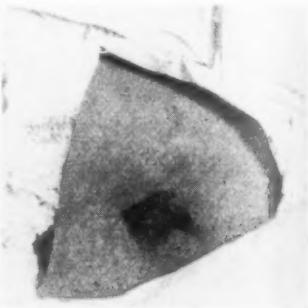


Fig. 4.

fistulous tracts which were apparently lined by epithelium and from which there was no drainage (Figs. 2 and 3). In view of the symmetry and the appearance of these lesions it was suspected that the patient had inflicted them. We hoped that we could apply dressings so as to make these lesions inaccessible and obtain healing without having the patient confined to the hospital.

During the next two and a half months every effort was made to obtain healing by incision, curettage, adequate drainage, and attempts to apply dressings which would make the wounds inaccessible. The arms were bandaged tightly against the side, with pads in the axillae but healing could not be obtained. The patient's condition was then discussed frankly with her family, who had a sympathetic and understanding attitude, and she was brought into the hospital to be kept under close observation until satisfactory results could be obtained. Under general anesthesia all the epithelialized tunnels beneath the skin in the left axilla were opened up (Fig. 3). The granulating areas were again laid open, and curetted or excised (Fig. 4). The area was treated with compresses of physiological salt solution and six days later the larger granulating area was covered with pinch grafts.

Sixteen days after the first operation the lesions beneath the breasts and in the right axilla were treated in a similar manner. In the meantime, a new draining sinus had developed in the right axilla while she was having treatment for the left side and there was also evidence that she had been tampering with the skin grafts, so while she was under general anesthesia a plaster of Paris cast was applied to her trunk and both arms, fixing her in a double "Statue of Liberty" position. Healing then progressed rapidly, and within twelve days all areas had healed.

The patient was very desirous of going to visit an aunt and was given permission to do so but in her presence instructions were given that under any condition the aunt or the mother should inspect the axillae and breasts daily and at the slightest sign of any return of the condition she was to be returned to

Case 2.—The patient, an eighteen-year-old white married woman, was admitted to the Duke Hospital on April 22, 1940, complaining of "dry gangrene of the hand." The family history was negative except that five out of fourteen brothers and sisters had died in infancy.

The present illness began nine days before admission at which time she received a finger nail scratch on the dorsum of the right hand. The wound did not seem to be infected, but three days later a darkened area appeared at the site of the injury. This had increased in size, particularly during the preceding two days, and was accompanied by tenderness and swelling of the hand, general malaise, anorexia, slight fever, and, on two occasions, chills. The wound had been debrided and treated by her family physician.

Examination revealed nothing of importance other than the lesion on the right hand. Over the radial surface of the dorsum was a black gangrenous area measuring approximately 3 cm. in diameter and about which there was no gross inflammatory reaction. There was no enlargement of the adjacent lymph nodes. Motion of the fingers was somewhat limited. The white blood count was 9,800 and the hemoglobin was 90 per cent.

Treatment.—The black eschar was removed at the time of admission. The base of the ulcer was black, the tendons were exposed, and several exposed veins were thrombosed (Fig. 5). During the patient's eleven-day stay in the hospital under treatment with hot saline compresses and application of zinc peroxide the ulcer cleared up rapidly, the slough separated, leaving a healthy granulating base. Repeated anaerobic and aerobic cultures showed only occasional staphylococci.

After treatment for eleven days, and just before skin grafting was to be carried out, the patient left the hospital against advice. She stated that she would return home and talk to her physician and come back within one week for skin grafting of the area. She has not been seen since that time.

SELF-INFLICTED INJURIES—HART

Case 3.—A white girl, fourteen years of age, was brought to the hospital because of "sores" on the legs, arms, and head. Two months before entry a black spot appeared on the left shin and with sloughing

12 by 7 cms. with a definite growth of epithelium at the margin and in areas in the base. No specific cause to account for the persistence of the lesion could be demonstrated. After repeated questionings the patient



Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.

of the necrotic skin an ulcer formed. During the interval prior to admission similar lesions developed on the dorsum of the left foot, on the scalp and on both wrists. The family physician sent the patient to the hospital because he was unable to determine the cause of the lesions.

The patient was shy and uncommunicative except that she enjoyed exhibiting the ulcers and telling how she knew in advance when and where each was going to appear. There were numerous ulcers or areas of skin gangrene, some of which are shown in Figures 6, 7 and 8. The remainder of the physical examination and the laboratory examinations were negative.

Further inquiry revealed the fact that the patient had been allowed to ride to school because of the appearance of the lesions on the foot and later was excused from writing when the black spots appeared on the wrists. As the "disease" seemed to spread she was released more and more from duties about the house and farm. Although she strongly denied that the lesions were self-inflicted, the family stated that she had access to the lye used in making the household soap, and no new areas appeared while she was in the hospital. With the application of saline dressings the necrotic skin separated and the ulcers healed by second intention. No new spots had developed three years after her discharge from the hospital.

Case 4.—The patient, a white girl, eleven years of age, had developed a blister on the inner aspect of the right foot ten months before admission. Following this an ulcer formed, which grew progressively larger, although it received treatment which should have resulted in healing.

Examination revealed a shy, uncoöperative white girl in good physical condition. On the medial aspect of the right foot there was a shallow ulcer measuring

finally admitted she had kept the ulcer from healing by picking it. Her parents were informed of the situation and after obtaining their coöperation the ulcer healed within a week.

Case 5.—The patient was an unintelligent female mill worker twenty years of age who, over a period of ten years, had developed recurrent areas of skin gangrene. She had failed repeatedly in school and had advanced only to the fourth grade after seven years' attendance.

During the examination she feigned unconsciousness, performed athetoid movements, and was apparently insensible to stimuli, although when she thought she was not being watched she returned to "normal." There were many scars and areas of skin gangrene on the face and extremities.* The remainder of the examination and the laboratory studies were negative.

Under treatment healing was rapid. Her family physician reported that she remained well for only two months, after which time the ulcers reappeared.

Case 6.—A white woman, thirty years of age, was sent to the hospital from a county home because of a "sore" on the left foot which, three weeks before entry, had developed as an area of skin gangrene. Two years before she had feigned a bloody discharge from her ear by taking blood obtained from her gums and placing it in the external auditory canal so her physician now suspected her of malingering.

The patient was a poorly developed, mentally deficient white woman. On the dorsum of the left foot were five round areas of skin necrosis with little peripheral reaction. When she was seen on her second visit three

*For illustrations of this and other cases see "Self-Inflicted Injuries in Civil Practice," Deryl Hart, M.D., and Randolph Jones, Jr., M.D., *The Southern Medical Journal*, 29:963-973, (October) 1936.

months later the original lesions were partly healed, but a new crop in various stages of development was present over the lower leg and on the face. The only treatment was the application of a plaster cast to



Fig. 9.

the leg, thus rendering the lesions there inaccessible. Six weeks later all ulcerations, including those on the face, had healed.

Case 7.—A white girl, nineteen years of age, was sent to the hospital by her surgeon because an appendectomy incision had failed to heal for four years after operation. The incision had healed *per primam* except for a small area at the upper end. Here a small ulcer formed, which gradually spread until the entire scar was involved. Diathermy, ultraviolet radiation, various applications, and seven operative procedures did not result in healing. Meanwhile, various hemostatic agents and other measures failed to control the intermittent bleeding from the ulcer.

Examination showed a childish, over-coöperative white girl who was quite obese but who otherwise was in good physical condition. In the scar of a low right para-rectus incision was a shallow ulcer 10 cm. long and 2 cm. wide. No sinus tracts could be discovered and the base was covered with healthy granulation tissue. Cultures from the wound produced only *Staphylococcus albus*. The ulcer was treated with saline compresses for three days and then curetted under anesthesia and no sinus tracts were found. The tissue obtained showed on examination only a non-specific inflammatory reaction. At the time of operation the skin adjacent to the wound was painted with gentian violet and the patient placed in a body cast. Three days later when her fingers were found stained with the dye, the cast was extended downward to include the thighs and to make the wound completely inaccessible. A window was cut in the cast over the ulcer and pinch grafts were transplanted to the clean, granulating area. Within seventeen days after admission to the hospital the ulcer had healed (Fig. 9).

The patient, who could foretell bleeding from the wound, after being placed in the cast cried most of the time for forty-eight hours and sent repeated messages asking her family to come for her. Having failed to persuade them she suddenly appeared brighter and said, "I have a feeling that I am going to get well." Although no admission of self-inflicted irritation of the wound could be obtained, and against our advice that our opinion, known to the patient, be held over her as a means of securing her coöperation, the surgeon who had treated her for the four years told the family the cause of the failure to heal. She has remained well and we feel there is no doubt as to the cause of the non-healing.

Case 8.—A white man, twenty-one years of age, was seen because an appendectomy incision did not heal during a period of seven years, in spite of frequent dressings and six operations performed to obtain closure.

The patient was in excellent physical condition. In the lower portion of the scar of a McBurney incision was an ulcer 2.5 cms. in diameter. There was nothing about the appearance of the wound to account for its failure to heal and we concluded that it was being kept open.

The skin of the entire right lower quadrant and the ulcer were painted with gentian violet so that it was difficult to differentiate the ulcer from the surrounding skin. A large dressing was applied and sealed to the skin with collodion. Even by changing the dressing every two days it became progressively more difficult to keep the edges sealed. After ten days, when the ulcer was two-thirds healed, the patient appeared with the dressing detached along the lower border and reported that the "discharge" was much worse. He was shown that the "discharge" was dried blood and on removing the dressing his attention was called to six parallel tangential cuts in the skin, each approximately 2 cms. long, just below the ulcer, which itself still showed progressive healing. Since that time he has not been seen by either his surgeon or by me.

However, six years later a representative of the Federal Employment Agency came to seek my advice about a "most distressing case" of a young man who was very desirous of obtaining work and even then had temporary employment in the postoffice during the Christmas rush but could not work continuously because of an appendix wound of thirteen years' duration which had never healed. As she understood I had treated him she wanted my opinion and advice as to what could be done. She was told that reports on patients would not be given without the patient's consent, but that if she would come out with the patient I would be glad not only to go over his case in detail but could also probably assure her of obtaining healing if the patient could be placed under my care in the hospital for thirty days. Needless to say they did not come. However, the desired result was obtained for a year later I learned that the wound had healed, that the patient had a job and was supporting his mother.

Case 9.—The patient, a white man twenty-five years of age, came to the hospital because of an unhealed appendix wound of nine months' duration. He had been discharged from the hospital two weeks after the operation with the wound apparently healed but returned a week later, at which time it was open and draining pus. Since that time the unhealed area had increased gradually in size despite various types of treatment that had been used. At no time had there been any evidence of fecal drainage.

Examination showed a well developed man with normal hemoglobin, white blood count, pulse, temperature, and respirations, and presenting nothing of importance, except in the right lower quadrant of the abdomen where there was an oval ulcer measuring 10x20 cms., with a dirty granulating base, in the center of which was a large area of blackened necrotic tissue. There was no sinus tract and no evidence of undermining at the edges. The Wassermann reaction was negative.

Cultures of the wound showed only *Staphylococcus albus* and *E. coli*, with no fungi or anaerobic organisms.

After four days' treatment with compresses aided by excision of the necrotic slough, a clean granulating base was obtained. At this time, however, the patient refused further treatment and left the hospital against advice. His physician was told that the wound was in condition for skin grafting which would be necessary for early healing.

After thirty days the patient returned, giving the history that two weeks previously skin grafts had been applied by his physician. All the grafts had taken, both the grafted area and the donor area were healed.

There was moderate depression in the center of the grafted area. Below and medial to this grafted area there was a superficial ulceration measuring 4x3 cms. This was clean, with no sinus tract, no undermining of the edges, no tenderness in the surrounding tissues; and no signs of any intra-abdominal lesion. The patient was sent in by his physician for consultation only and has not been under our care since that time.

A recent letter from the patient's physician follows:

"The area where the blisters had occurred on the patient's wound were grafted after his return from Duke. This wound has healed completely except for one place about an eighth of an inch in diameter, but on his left leg, where I took the last grafts, he has developed an infection similar to the one he had in his right lower abdominal wall.

"I have kept continuous wet boric acid dressings to this wound which has progressively gotten worse. For the last three days I have applied 50 per cent ichthylol ointment which was the drug that I had used on his abdomen just before I sent him to Duke the first time. If you remember this patient also had an infection around both big toe nails. I removed the nails finally and kept wet boric acid dressings on these toes continuously but to no avail. Fifty per cent ichthylol ointment was applied to these toes for several days and then the wet boric acid again and the toes healed nicely."

Although the patient was never openly accused of inflicting the injuries, and was never asked by us to admit it, the course makes such a diagnosis highly probable.

Case 10.—The patient, a sixteen-year-old white female, came in with a complaint of nausea and vomiting which had been present for the past ten weeks.

The present illness began about 8 months before

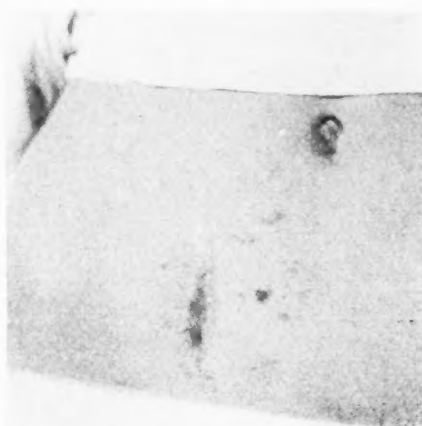


Fig. 10.

admission when she began having attacks of right lower quadrant pain, occasionally associated with nausea. These attacks increased in severity and in January, 1938, the appendix was removed. Following this operation there was a moderate bloody discharge from the wound and three weeks following operation she left the hospital without the wound being completely healed. One week later when she returned for a dressing the skin surrounding the incision was inflamed. After a period of two weeks, during which time the patient was ambulatory and the wound dressed daily, she was readmitted to the hospital since healing had not progressed satisfactorily. The skin about the incision, which had been inflamed when the patient returned to the hospital for dressings, developed blisters (Fig. 10). These blisters occurred before the patient received any ultraviolet radiation, and broke down with the discharge of a yellow material. In the hospital the wound was dressed two to three times a day and was treated with ultraviolet radiation. It was two and a half months after a simple appendectomy before the wound was completely healed. Following healing there was residual tenderness in the right lower quadrant. After all the lesions had healed (about two months before admission to the Duke Hospital) she began to have frequent attacks of vomiting, associated with some pain beneath the umbilicus and in the region of her operation. The vomiting, never associated with bleeding had occurred immediately after meals and had been spontaneous without nausea. It had persisted except for one short interval and the pain beneath the umbilicus and at the operative site had been present constantly. There had been no distention, no abdominal masses, and she had lost no weight during this period.

Examination showed nothing of significance other than the abdomen, where on the surface was the scar from the appendectomy, measuring about 5 cms. in

length and 1 to 1.5 cms. in width. Scattered about this over most of the right lower quadrant (Fig. 10) were irregularly placed scars, some of which were discrete and well circumscribed while others were confluent. Deep palpation revealed some tenderness in the right lower quadrant, but otherwise the abdominal examination was negative. The hemoglobin was 90 per cent and the white blood count was 7,600.

Following admission to the hospital the patient, after being served milk and crackers, was noted to vomit only milk. The crackers had disappeared from her tray and the nurse discovered that she secreted these beneath her pillow and ate them at night. Gastro-intestinal studies were entirely normal. At this time it was learned that the patient had had a love affair and it was the opinion of her mother that this might have some bearing on her condition.

Psychotherapy, consisting of nothing by mouth, bilateral subcutaneous salt infusions, and frequent gastric lavages were tried with striking results.

Within eight days after treatment was started the patient was eating and retaining her diet. On the tenth day she was discharged, her condition being described as good, and her gastro-intestinal system seemingly functioning normally.

When seen ten weeks later she had had no nausea or vomiting, had been to the beach twice during the summer, and was enjoying life in general.

Case 11.—Another patient, who was not under my direct care, but who was seen by me, had an appendectomy incision which would not heal until she was placed in a plaster cast and the wound skin grafted. Then healing was rapid and she was discharged as cured. However, she was seen several years later, after having been in various hospitals throughout the country, and again had an open wound in the old scar.

Case 12.—This white woman,* thirty-five years of age, entered the hospital with the complaint of "Raynaud's disease." Her fingers had been removed piecemeal by numerous operations. Over the end of the fifth left metacarpal was a sharply demarcated area of gangrene. The radial pulse in both wrists was good and the hands appeared normal except for the lesion described and the mutilation of previous operations. Although the patient complained loudly of her unfortunate condition and of severe pain in the hand, she seemed quite comfortable when "off guard." She also insisted that amputation be done through the middle of the fifth metacarpal, saying that otherwise the wound would not heal.

The ulcer was excised, using nitrous oxide-oxygen anesthesia, and, after controlling the bleeding, which was profuse, the skin was closed and the entire hand and forearm placed in a plaster cast. After twelve days the cast was removed and primary healing had occurred. When the patient saw what had been done she cried almost continuously for twenty-four hours, giving no explanation except that we had "fooled"

her. She has not been heard from since leaving the hospital.

Case 13.—A pupil nurse, twenty-three years of age, was admitted to the infirmary of another hospital because of a mild carbolic acid burn of the hand. The burn healed rapidly; however, she was kept under observation for six months and every conceivable examination made to discover why she had a continuous elevation of temperature (101 to 104° F.). Nothing could be found and she was eventually discharged with a diagnosis of "hyperpyrexia unexplained." We first saw her eighteen months later because of a peculiar "infection" about the nail of the left third finger. This failed to subside under treatment, and finally the nail was removed, followed only by temporary improvement. A week later, when she returned for her daily dressing, there was a fiery red discoloration of the dorsum of the hand which had somewhat the appearance of erysipelas.

The patient was then admitted to the hospital and the "infection" healed rapidly. Her temperature, however, remained elevated as at the time of her previous illness, until a house officer noted that her face was cool when her temperature, which had just been taken, was recorded as 103° F. Her temperature was immediately retaken by mouth, axillæ, and rectum, using four thermometers simultaneously, and the patient kept under close observation. All thermometers registered below 98.6° F. Thereafter she was closely watched when her temperature was taken and there was no subsequent elevation. Shortly after she left the hospital, having been dismissed from her training school as mentally unsuited for nursing, she wrote that the hand, which was healed at the time of her discharge, was again giving trouble.

Case 14.—An intelligent white woman, twenty-three years of age, entered the hospital complaining of a chronic infection about the nail of the right great toe. One year before entry, the entire nail had been removed ten days after the onset of an acute infection. Although the nail bed had been curetted twice in the interim and the matrix of the nail removed, the wound would not heal.

The physical examination was negative aside from a clean granulating ulcer occupying the position from which the nail had been removed (Fig. 11).

The ulcer was treated with compresses and then curetted. A dressing was applied to the toe and the foot and the leg was placed in a plaster cast. This was followed by prompt healing. Several weeks later the patient returned with a blister in the scar. She was told then that if this did not heal promptly, a shoe would be made with a lock; her sister with whom she lived would be given the key, and told the nature of her trouble. She never admitted keeping the wound open, yet it remained healed under the salutary threat of exposure.

Case 15.—A white man, thirty-one years of age, entered the out-patient clinic complaining of a "boil"

*Reported by permission of Dr. Dean Lewis.

SELF-INFLICTED INJURIES—HART

on the back of his hand. Two years before a cigarette burn on the left wrist resulted in an infected pustule. Shortly afterward a crop of similar lesions appeared progressively on the arm. About the time these healed a red, raised area developed on the dorsum of the left hand, was incised, and drained only serosanguineous fluid. The "boil" had continued to exude bloody fluid intermittently until the patient's entry.

Examination showed the left arm to be pock-marked by numerous round, regular scars extending up to and stopping sharply at the shoulder. The "boil" on the dorsum of the left hand was a heaped up area of scar tissue with a small sinus in its center from which old blood exuded.

A bandage of Unna's paste was applied to the hand and forearm, and when this was removed three weeks later the "boil" had completely healed.

Case 16.—A white woman, twenty-seven years of age, was admitted to the hospital with the complaint of swelling and soreness of the right knee. Shortly after an attack of acute arthritis three years before entry, black and blue spots appeared over the right knee. The lesions had recurred and soreness in the joint had persisted at intervals until admission.

Examination showed several large swollen ecchymoses on the medial aspect of the knee joint which was held flexed at an angle of ten degrees until her attention was diverted, when it could be moved through a normal range of motion. Aside from slight atrophy of the right leg, the other findings were negative.

Shortly after admission, excessively dark circles under her eyes were found to be caused by coloring matter which could be wiped off. Meanwhile a new crop of purpuric spots appeared over the knee as the older areas faded. In spite of her objections, a plaster cast was applied to the extremity, and when, two weeks later, this was removed the lesions had disappeared completely. An unhappy home situation was admittedly the cause of many of the patient's complaints. After repeated conversations there was some improvement in her mental attitude and she left the hospital after seven weeks, improved and able to walk.

The two cases which follow belong to the group of purposeful malingerers who receive compensation for their disability.

Case 17.—A white female mill worker, twenty-nine years of age, was sent to the hospital by the State Industrial Commission because of "sores" on the left knee and stiffness of the joint. Ten months before she was supposedly bitten on the left knee by a "scorpion," which she described as being a small lizard. Shortly afterward, and in the interval until admission to the hospital, recurrent areas of skin gangrene had appeared about the knee and the joint had become stiff. During this time she had been receiving compensation for her disability.

Examination revealed circular and dumb-bell-shaped

areas of skin gangrene over the left knee and lower thigh. All had well defined margins except for an occasional comma-like area of redness at their peripheries, where some liquid caustic had evidently been

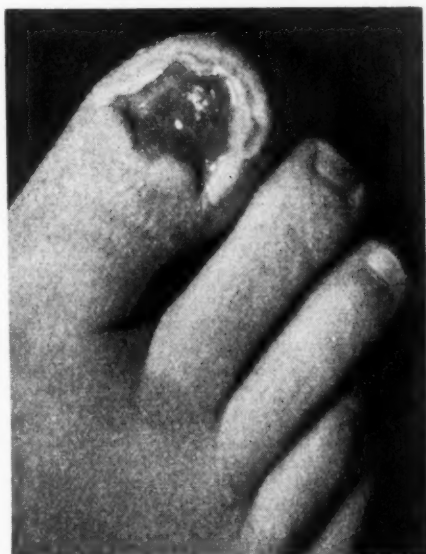


Fig. 11.

spilled over on the skin and had been quickly wiped off. Numerous scars of former lesions were present. The knee was held stiff until the patient's attention was diverted, at which time the joint relaxed and could be moved five to ten degrees before she noticed the motion and again held it rigid.

Under a general anesthetic, the eschars were excised and the defects were skin grafted. With induction of the anesthesia she moved the "stiff" knee through a normal range of motion. After operation healing was rapid and the patient moved the knee freely. On discharge from the hospital all claims for compensation were dropped.

Case 18.—Two and a half years before entry to the hospital, this forty-year old white man stuck a nail in his foot. Shortly thereafter he developed a pustular eruption on the dorsum of his foot, which recurred periodically and for which he had been receiving disability benefits.

On examination an eruption was found over the dorsum of the foot, composed of pustules in all stages of development. Some of these when opened contained a small foreign body which proved to be a splinter. Many of these small spicules were removed in the presence of the patient and carefully preserved. The foot was thoroughly cleaned with alcohol and a plaster cast applied to include the foot and the leg.

Two weeks later, on removing the cast, the pustules had healed and their sites were represented by crusts. On removing these a small spicule was seen projecting from the under-surface of each. These likewise on removal were preserved. At the end of the final examination six weeks later the foot was entirely healed and the patient was told, in the presence of

an insurance representative, and with the bottle containing the spicules in front of him, that there was no relationship between the pustules and the injury received when he stuck a nail in his foot. He was also told that he was not entitled to further compensation. Following this he dropped his claim.

Over a year later I was called to testify before the North Carolina State Industrial Commission in regard to this patient, as he had had a return of the same symptoms and had requested that the case be reopened. In my testimony I emphasized the fact that his lesions had no relationship to the old puncture wound, but in the face of pointed questioning carefully avoided any statement that they were self-inflicted since this would be difficult for me to prove and might result in personal embarrassment. After the claim had been disallowed the Commissioner in a private conversation stated that he gathered from my testimony that I had an opinion about the man's condition which I was not willing to have written into the record, and asked if I would be willing to give it to him privately. When told that in my opinion the lesions were undoubtedly self-inflicted, he told me that the Commission had learned that five years previously the South Carolina Industrial Commission had found that the patient was drawing compensation for injuries which had been self-inflicted.

Patients with self-inflicted injuries and with their desire to conceal the true nature of the lesions and mystify the physician present problems in diagnosis and treatment which demand all the knowledge and experience and tax the ingenuity of the most adept. In the literature they have received attention from men in all branches of medicine, but as a group are seldom considered in textbooks except those on diseases of the skin. Even in our own hospital files it is impossible to locate the records of a number of similar cases since the diagnosis for some reason (such as a relative of the patient in the training school, or record room) was not complete. A considerable number of these presented were found only as a result of the good memory of members of the staff.

These lesions are far more common in adults than in children and are most common about the age of puberty, particularly in girls.

The most common lesion produced in the female is some form of dermatitis artefacta, while there are recorded instances of male patients who have produced a cellulitis by the injection of liquid feces, saliva, crude oil, turpentine, or metallic mercury. Granulomas have been produced by the injection of paraffin or camphor, herniæ by dilatation of the external ring, and

rectal prolapse by the tearing of the sphincter muscle. Abscesses have formed following the insertion of thread, horsehair, or splinters beneath the skin, while one patient is reported to have forced a knitting needle from an appendectomy wound into the bladder. I know of one woman who had multiple sinuses which traversed the abdomen and thighs, produced by forcing a crochet hook beneath the skin. (Figs. 2 and 3 show lesions which also must have been produced in some such manner.)

The classification of the patients into groups should take into consideration the motive behind the act and the degree of insight the patient has into his or her psychological processes. No attempt will be made to classify our patients through many can be fitted into one of the following groups.

1. Those desiring to gain sympathy or attention or to evade unpleasant duties.
2. Adult malingerers who consciously mutilate themselves for personal gain as compensation or evasion of military duties.
3. Those who mutilate themselves in order to obtain a certain amount of perverted sexual gratification.
4. Hysterical patients, usually girls, with a subnormal intellect.
5. Patients with major psychoses who make no effort to evade the responsibility for the lesions being self-inflicted.

Diagnosis

The diagnosis of conditions of this type depends primarily on ruling out organic disease and on maintaining a suspicious and inquisitive attitude toward all patients with lesions of a questionable nature. To one who has seen several cases the estimation of the personality of the patient may be of great assistance. There is usually an ill-definable quality about their general reaction which is difficult to describe. They may be over-coöperative or too insistent that their trouble is of no consequence, and that they can return to their daily routine. The general appearance of frankness may be overdone and yet while apparently willing to tell everything, they may continually evade answering straightforward questions.

A careful history and thorough examination with laboratory procedures as indicated are always necessary. The character of the skin le-

sions produced by escharotics has been so often described that it need not be repeated here. Biopsy, culture, or curettage of the lesions may at times be necessary. When these patients cannot be kept under continuous observation, suggestions as to the appropriate location of new lesions followed by their appearance may help to clinch the diagnosis.

A word should be said about surgical wounds which, without obvious cause, will not heal. These are often most puzzling and the possibility of interference on the part of the patient should always be kept in mind. The lesion should be carefully explored, under anesthesia if necessary, and a search made for sinus tracts, foreign bodies, or any other condition which might keep the wound open. A dressing should be applied which will prevent the patient from reaching the area involved. For this purpose a plaster cast is ideal. Often painting the skin in the region of the wound with one of the dyes such as gentian violet or mercurochrome will leave tell-tale marks on the fingers should the patient attempt to reach the area. A window can be cut in the plaster cast for dressings provided it is closed after each dressing in such a manner as to prevent the patient from tampering with the wound. It may be either sealed with collodion or plaster-of-Paris or strapped with adhesive in a pattern which the patient cannot duplicate. Not infrequently the patients complain bitterly against the application of a cast and use every artifice to have it removed.

Daily inspection of the wounds will show a rapidity of healing that is surprising. Certain patients, when they realize that their actions are understood and see that the wound is going to heal, are able to adapt themselves to the idea of permanent recovery. Others will quickly pass from the care of the physician who has detected their actions and their lesions will again appear. Many of them may be satisfactorily treated only by an experienced psychiatrist.

Treatment

The physician is usually faced with the problem of getting the lesion healed as a proof of his diagnosis before he can mention his suspicions either to the patient or to the patient's family. One can never expect coöperation from the patient while the lesions are present. After the physician has proved his diagnosis by the

healing results obtained, the patient may be placed on good behavior by a promise to withhold the diagnosis from his family so long as he remains well.

It is essential both for diagnosis and for treatment that these patients be placed under close supervision and that the doctor be given absolute authority to apply any type of dressing he may think necessary. In the case of patients who fall in Groups 1 and 2 the lesions can be easily cured if the patients are kept under close observation. Material which might be used to cause the lesion should not be available and the body area involved should be made inaccessible by an occlusive dressing. After healing is complete recurrent lesions can frequently be avoided by holding over the patient the threat of exposure. This does not have to be expressed in words which the doctor might find it difficult to prove, for the patient quickly learns that the nature of his condition is understood. They can be told that their case will be fully explained to their family doctor, who will be instructed to return them immediately if further lesions develop.

It is doubtful whether the patients who fall in Group 3 can be cured and they should certainly be placed under psychiatric treatment. It is also very difficult to get them to admit the motive behind their actions. They are probably closely related to the group of masochists.

The patients in Groups 4 and 5 are primarily psychiatric problems and surgery should only be supplementary to the treatment of the major conditions.

Prognosis

In Groups 1 and 2 the local lesion can be cured in all cases and in a high percentage recurrence can be avoided.

In Group 3, the lesion can be healed, but it is doubtful whether these patients can be permanently cured.

In Groups 4 and 5, the local lesion can be healed, but permanent recovery depends on the nature of the underlying psychiatric condition.

In conclusion I should like to make two quotations, the first from M. Dieulafoy:*

"When one goes to the depths of the mental state of these pathomimes, in whose case the goal or aim

*Report of Case of Self-Inflicted Lesions. Bulletin de L'Académie de Médecine, Vol. 1, 1908.

is not fraud, nor money, nor desire for gain, one is greatly at a loss to find an explanation for this mental state. Thus, here is a young girl who has made these ulcers for two years until they have disfigured her, and one cannot find a reason which will account for her acts. The girl whose history I have given made these ulcerations on her legs and allowed them to amputate her thigh and continued to make them with the idea that it might be necessary one day to have a new amputation.

"Our man allowed them to cut off his arm without divulging his secret when he would have had to say only a word to stop the surgeon's knife. And our man is not crazy, nor is he a degenerate, nor is he an alcoholic; he is not a neurasthenic, he is not even hysterical, there is no evidence of an hereditary taint, he is intelligent and well raised; at the insurance company where he is employed each person sings his praises, and, in the numerous conversations we have had with him, we have found him dignified and intelligent. Then, how can one explain this strange aberration which for two and a half years has incited this man to cover himself with ulcers and let them amputate his arm? He told us, 'I was driven to make my lesions just as a morphine addict is driven to the injection of morphine.'

"The comparison is not exact, for in the case of the morphine addict the injections of morphine are followed by pleasure and satisfaction, while the ulcers of our man give him only torture and pain. And then, his consenting to having his arm amputated—how can one explain that?

"The pathomimes of this category do not receive from their acts any profit or any good, but they experience a peculiar pleasure in making themselves a problem and in their complaints they get a great satisfaction out of mystifying their fellow-creatures. They have no confidants, they guard their secret with jealous care as a miser guards his treasures, and after a while, habituated to this unpleasant deception, they become accustomed to it and they cannot leave it of their own volition or free will.

"The deeds of this type of individual may well trouble the conscience of the legal physician. In the impulsive act which our man has committed, can one admit that he was responsible? No! He is not responsible in the least. Thus we told him after his mental state had been cured that for two years and a half he had obeyed a fixed idea, 'like a machine, without knowing why.'"

I will not attempt to go into a discussion of the psychiatric problem of these cases, but I should like to quote from Karl A. Menninger:*

"The chief elements in malingering of the self-mutilative type are: the infliction of a wound on the self which results in pain and loss of tissue; exhibition of the wound to persons who react emotionally

to it and give sympathy, attention and efforts to cause healing; the deception of the observer as to the origin of the wound and often distinct efforts to defeat therapeutic measures and the obtaining of monetary or other material reward, or detection, exposure, with constant humiliation, reproach and sometimes actual punishment. . . .

"The well-known disparity between the great suffering voluntarily endured and the objective gain is to be explained on two bases: first, that the gain is only partly represented by the monetary reward, but includes also the satisfactions in exciting sympathy, attention, perplexity and dismay, and, second, the pain is not only incident to the device used for obtaining the gains, but is psychologically demanded by the conscience as a price for indulging in them. Actions speak louder than words, and it is clear that however conscienceless the malingerer appears (or claims) to be, he unconsciously feels guilty and inflicts his own punishment."

His conclusions are as follows:

"Malingering, therefore, of the self-mutilative type may be described as a form of localized self-destruction which serves simultaneously as an externally directed aggression of deceit, robbery, and false appeal. The aggression is of such an inflammatory sort that it, in turn, obtains for the malingerer not only sympathy, attention and monetary gain (at first), but, ultimately, exposure, reproach and 'punishment.' Both aspects of the induced treatment by the outside world are strongly tinged with the perverted erotic satisfaction incident to masochism and exhibitionism.

"From this, one may conclude that the original act of malingering of this type serves chiefly as a provocative aggression; that is, it is a minor self-attack designed to excite a major attack (both indulgent and punitive) from other persons, the pain involved being the price demanded by the conscience for the unconscious satisfactions achieved."

CONSERVING VISION

You have undoubtedly noticed that your JOURNAL is now printed on tinted paper. While certain of the publishing companies, notably The C. V. Mosby Company of Saint Louis, have used this tinted paper for books, this is the only state journal which has taken this step to help conserve the eyesight of its readers.

Any comment, whether you approve or disapprove, would be gratefully received.

*Psychology of a Certain Type of Malingering. Arch. Neurol. and Psych., Vol. 33, 1935.

Septic Branchial Cyst

Eradication by Electrical Cauterization (Report of a Case)

By Clarence A. Berge, M.D.
Detroit, Michigan

CLARENCE A. BERGE, M.D.
M.D., University of Michigan, 1917. Former Attending Specialist in Orthopedics, U. S. Veterans Administration, Detroit. Auxiliary physician and surgeon, The Grace Hospital, Detroit. Member, Wayne County Medical Society and Michigan State Medical Society.

■ A BRANCHIAL cyst is an embryonic remnant in the neck which produces unsightly deformity when distended. Repeatedappings for drainage, applied for cosmetic reasons, very often cause infection, and in this event the cyst becomes a potent focus of infection which produces constitutional symptoms.

A septic cyst produces a disabling factor similar to that of a diseased tonsil, and similarly to a tonsil the treatment of choice becomes the removal or destruction of the same.

The case reported is that of Mrs. M. S., aged thirty years when her cyst was eradicated September 12, 1938. Her first symptom was a swelling on the left side of her neck making its appearance at the age of fourteen. At first there were no symptoms at all aside from an ugly deformity. Between the year 1923 and the year 1937 this swelling was drained by tapping twenty-nine times. The cyst would remain small for a time after each drainage, but would progressively distend sufficiently during each six months to make her desire another tap.

In 1937 she came to the author to have her cyst drained as had been the routine previously.

Past History.—Her history showed that she had felt increasingly tired, regardless of exertion, almost continually since 1928, five years after the routine tapping of the cyst had been started.

Physical Examination.—Examination revealed a temperature of 99.0°F. Her physique was normally slender with mild malnutrition. Her appetite was usually good. Her tonsils had already been removed very cleanly and there was no evidence of dental sepsis. Chest, abdominal, and urinary findings were negative. She seemed a very nervous, introverted person keenly conscious of the ugly deformity in her neck. This was a fluctuant saccular tumor the size of a Bartlett pear protruding in front of the sternocleidomastoid muscle on the left. This enlargement showed no redness or heat, and was only slightly painful to pressure.

Diagnosis.—It was plainly apparent that she was suf-

fering from low grade septic intoxication even though evidence of any fulminating infection was absent. The patient agreed that the infected contents of the cyst seemed causative of her constant tired feeling. A number of medical examinations revealed nothing wrong aside from the cyst.

Procedures.—The cyst was drained under novocain anesthesia and thirty cubic centimeters of creamy secretion which contained thickened fibrinous particles was exuded. A considerable enlargement was still palpable and it was apparent that not more than two-thirds of the cyst cavity had been evacuated. The patient was satisfied for the time and stated that this was as extensively as the cyst had been drained subsequent to the year 1928.

The cyst was drained again six months later and at this time the temperature was 99.4°F. and the patient said there had been no remission of her constant tired feeling. She was plainly very much discouraged.

Discussion of Operative Methods

Eradication of the cyst was definitely indicated by this time. Formal excision of the cyst was considered; a most formidable surgical procedure requiring a large incision with dissection at the outer border of the cyst wall progressing inward from the sternocleidomastoid border to the posterior tonsillar pillar, passing through amid the great vessels and entailing the risk of cutting the laryngeal innervation and injuring the patient's voice.

The sclerosing method as described by Cutler and Zollinger was considered. In this case the drawback to using sclerosing was to evacuate the cyst completely of thick fibrinous material through any opening small enough to practically retain the sclerosing solution. Sclerosing could not be successful if thickened exudate prevented contact of the solution with the cyst wall and all contents remaining in would still be septic media. Elimination of the focus of infection was the most important thing and this could not be assured by sclerosing even though the deformity might be lessened visually.

It was decided to abandon the idea of formal surgical cyst excision and to only use the sclerosing treatment in case a certain method of thermal dissection of the cyst wall should prove unsuccessful: and as this method was successful, sclerosis was never attempted.

This thermal dissection is accomplished by the cautery. The writer has first used this method in removing Bartholin cysts and had found it satisfactory. It consists of opening the cyst

widely and then, while holding the wall edges under traction so they will flare apart, destroying the cyst wall tissue from the bottom out with the electrical cautery. There is, of course, a certain amount of sloughing discharge for some days

the cavity, packed down well to the bottom, and left in place for two minutes. The patient at this time was asked to speak during the time the cautery was applied in order that any difficulty in phonation might be accepted as evidence that burning was extending too deeply toward the laryngeal region (Fig. 2).



Fig. 1. Cyst as distended originally.

after the cautery application but this is minor and inconsequential. As far as ultimate results go it makes no difference whether the dissection of the cyst wall is thermal from the inside or is performed with a sharp scalpel from the outside.

Operation.—On September 12, 1938, thermal dissection of Mrs. S.'s branchial cyst was performed (Fig. 1).

Pre-operative medication consisted of ten grains of sodium barbital given by mouth one-half hour before the operation started. This was for protection against a possible novocain or cocain poisoning.

Skin and fascia were infiltrated with two per cent novocain and a one and one-half inch incision was made vertically over where the cyst was bulging the most anterior to the sternocleidomastoid border. This was made elliptical to cut out the old tapping scars. The protruding cyst was dissected bluntly until enough of it was exposed to permit making an opening in it of the same length as the skin incision and parallel with same. It was not necessary to go in deeply as the cyst wall became more and more adherent to adjacent tissues as separation progressed and the operator would have been forced to use the sharp knife edge if he had dissected further. The cyst was then opened to a length of one and one-half inches and forty cubic centimeters of creamy contents evacuated. The cyst wall was flared out on four sides and under traction the cyst resolved itself into a deep funnel-like cavity containing much mucoid substance and fibrin which had a mild putrefactive odor. This material was easily wiped away and the clean interior wall exposed. A gauge pledget saturated with two per cent cocain was placed within

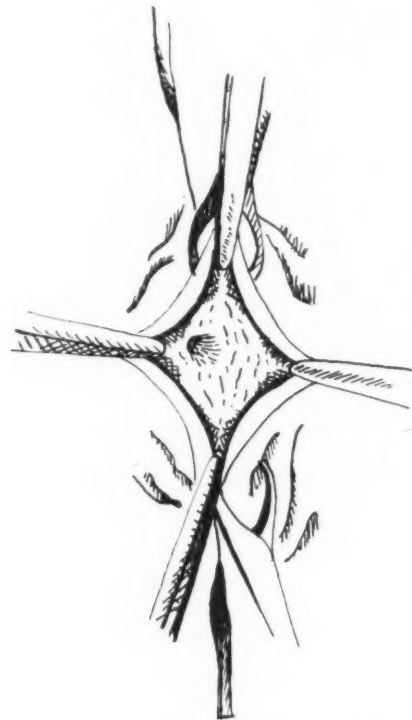


Fig. 2. Cyst wall prepared for cauterization.

The large round applicator of the Post cautery was applied to the cyst wall from the bottom outward, going clockwise around and around until the terminal edge was reached. The actual time of application of the cautery was about one minute for the entire area.

No hemorrhage was encountered. A rubber wick drain was placed in the seared cavity and skin and fascia were closed above this drain with two horsehair sutures. An ordinary small dressing of gauze and adhesive tape was applied.

There was no real pain at any time, but the hissing and scent of the cauterizing frightened the patient greatly for the moment. She left the table unassisted and walked from the office.

Postoperative History.—Convalescence was uneventful. The rubber wick drain was kept in for fourteen days and the drainage was serous and very moderate. Removal of the drain permitted the incision to close promptly and at this time there was still some palpable swelling in the neck, about one-fourth of the total volume present originally. October 7, 1938, the twenty-fifth day, the incision ruptured spontaneously and drained for three days. From that time on the incision remained closed and there was gradual regression of the necrosed cyst remnants until all evidence of the cyst had disappeared by January 1, 1939. There

was only slight discomfort during convalescence, which was ambulatory.

September 15, 1939, her temperature was 98.6°F. She did not regain a feeling of well being until after she was delivered of a living child May 17, 1939. The pregnancy undoubtedly levied its own toll upon her and the effect of eradication of the septic cyst could more truly be evaluated since the birth of the baby. Since that time she has felt well and strong and has possessed normal energy such as she did prior to the year 1928.

Summary

A focus of infection was eradicated.

A cosmetic deformity was removed by an office procedure performed at reasonable expense leaving a negligible scar.

The personality change was particularly outstanding.

References

1. Cutler, F. C., and Zollinger, R.: *Am. Jour. Surg.*, n.s., 19:411, 1933.
2. Martin, E. G.: *Jour. A.M.A.*, 99:268, 1932.

Cancer of the Cervix*

Time Wasted

By Oliver E. Todd, B.S., M.D.

Toledo, Ohio

OLIVER E. TODD, M.D.
B.S., *University of Michigan*, 1932. M.D.,
University of Michigan, 1934. Attending
physician at *Toledo Hospital in Obstetrics and
Gynecology*. Junior Obstetrical Staff at *Lucas
County Hospital*.

■ THIS STUDY was motivated by a desire to determine whether the factors mentioned by Miller² and Collins¹ were responsible for the delay seen among similar patients in the Departments of Obstetrics and Gynecology at the University of Michigan, and also, to note if possible, how much if any improvement has occurred in recent years. It was desired to devise some method of handling the problem so that patients might receive treatment earlier in the course of the disease.

This study covers a period of six years (July 1, 1931, to July 1, 1937) and includes the records of 634 consecutive patients with cancer of the cervix. All of these patients were seen and

studied in the Gynecological Cancer Conference at the University of Michigan. One hundred per cent follow-up has been maintained since the origin of this conference in 1931. The information used in this study was obtained from careful review of the Conference records.

Clinical Classification.—All cases were grouped according to the clinical classification developed by and used at the University of Michigan. This system of clinical grouping has been continuously and successfully used by us since our cancer conference started in 1931 and is elsewhere fully described by Miller and Folsome.³

Ages.—The average age of the 634 cases was forty-seven years. The youngest patient in our study was twenty and the oldest seventy-nine years of age. Three hundred and fifty (55 per cent) were premenopausal while two hundred and eighty-one (44 per cent) were postmenopausal at the time of the onset of symptoms. In only three instances was the information so incomplete as to make it impossible to place them in one of the two groups listed below. Patients classified as postmenopausal were (1) Those in whom menstruation had ceased, or (2) patients having very infrequent periods associated with vasomotor disturbances, and finally, (3) all cases over fifty-five years of age.

Parity.—Approximately 13 per cent of the patients were nulliparas but of these 18 had one or more abortions. Among the remaining 87 per cent there were twelve cases for which the parity was not stated (Table I). This may be said to conform with the usually accepted relationship between cancer of the cervix and parity. The average number of children among the parous women was 4.1 per patient.

TABLE I. PARITY

	Number	Per cent
Nullipara	81	12.78
Multipara	541	85.33
Not stated	12	1.89

Average number of children (multipara) 4.1

Education.—Many educational programs have been carried on attempting to combat the inroads of cancer and bring the patient to physicians while the neoplasm is still early. This study would seem to demonstrate that effort in this

*From the Department of Obstetrics and Gynecology, University of Michigan Hospital, Ann Arbor, Michigan.

CANCER OF THE CERVIX—TODD

direction has been of little value. As shown in Table II, there has occurred no significant change in the relative incidence of the various clinical groups admitted to the hospital over a period of

even been examined. Since most of these cases were well advanced when medical attention was first sought, this is not a very commendable showing. Since bleeding or spotting occurring

TABLE II. CLINICAL GROUPING
7-1-31 to 7-1-37

Clinical Classification on Admittance	Year of Admittance							Total
	Before 7-1-31	7-1-31 to 7-1-32	7-1-32 to 7-1-33	7-1-33 to 7-1-34	7-1-34 to 7-1-35	7-1-35 to 7-1-36	7-1-36 to 7-1-37	
Cancer of Cervix I	4	4	2	7	2	1	5	25
Cancer of Cervix II	7	6	12	5	14	15	11	70
Cancer of Cervix III	19	28	14	34	26	39	16	176
Cancer of Cervix IVA	19	31	46	50	45	39	47	277
Cancer of Cervix IVB	1	9	8	13	14	12	19	76
Cancer of Cervix IVC	1	2	3	0	2	0	2	10
Total Cancer of Cervix	51	80	85	109	103	106	100	634

six years (1931 to 1937). The great majority of cases are still far advanced (Clinical Group IV) when they come under observation.

Initial Symptom.—The majority of patients first sought medical advice because of abnormal bleeding. This so-called "spotting" was generally characterized by the fact that it was (1) intermenstrual, (2) progressive, (3) prone to follow trauma such as coitus, douching, exercise, et cetera, and (4) it was painless. This coincides with the findings of other observers who have repeatedly stated that abnormal bleeding or spotting is one of the most significant and consistent early symptoms in cancer of the cervix. Most patients also complained of a gradually increasing foul discharge which must also be considered a significant, though generally late symptom.

Entrance Diagnosis

Inspection of Chart I reveals that of the 506 cases with available information, 383 cases or 75.7 per cent entered the University Hospital with the diagnosis already made. Miller in his earlier study reported this figure to be 56 per cent and Collins found 77 per cent. One hundred and twenty-three cases or 24.3 per cent had not been diagnosed and of these 42 cases had not

Diagnosis before Admittance




	No.	Percent	
Diagnosed	383	75.7	
Not Diagnosed	123	24.3	
Not Examined	42		
History Indefinite	128		

Chart I.

after the menopause is likely to be particularly significant, a comparable analysis was made for both the pre- and postmenopausal groups as indicated in Charts II and III. Interestingly enough the number diagnosed and not diagnosed remains approximately the same in the two groups. Again referring to the studies previously mentioned, the number diagnosed among the postmenopausal group in Miller's original series was 64 per cent while Collins found 82 per cent diagnosed in the postmenopausal group in his follow-up study. If the physician would consider every case of postmenopausal bleeding cancerous in origin, at least until proved other-

CANCER OF THE CERVIX—TODD

wise, the comparison between the pre- and post-menopausal groups would in all probability reveal a better diagnostic incidence for the latter group than is here reported. In most cases biop-

Time Lost by Patient.—Table III shows the average elapsed time from the appearance of the first symptom (spotting) to the first examination and the average elapsed time from the

Diagnosis Before Admittance
First Symptom Before Menopause (350 cases)




	No.	%	
Definite Diagnosis	225	76.	
Not Diagnosed	71	24.	
Not Examined	20		
History Indefinite	54		

Chart II.

Diagnosis Before Admittance
First Symptom After Menopause (281 cases)




	No.	%	
Definite Diagnosis	155	74.88	
Not Diagnosed	52	25.12	
Not Examined	22		
History Indefinite	74		

Chart III.

sy material can be easily obtained in the office with a Gaylor or punch biopsy forceps and the tissue sent to a competent pathologist for diagnosis. Then, if doubt still exists as to the presence of cancer, additional tissue should be obtained for microscopic study. A few unnecessary operations of this type are certainly preferable to a single missed diagnosis. Postmenopausal patients with bleeding should always be thoroughly investigated.

Non-examination.—The fact that forty-two cases had not had a pelvic examination prior to admittance for treatment is indicative of a tendency which warrants criticism. The medieval idea that bleeding woman is unclean and should not be examined should be discarded.

Also oxytocic drugs, useful enough in their place, should not be used to control bleeding without accompanying adequate investigation as to the source of bleeding. Too often such therapy is continued until the physician recognizes that the patient is not improving and examines her, or, the patient becomes dissatisfied and seeks medical attention elsewhere. Such practice may lead to the loss of much valuable time. Patients with abnormal bleeding should not be permitted to go unexamined for any considerable length of time. A patient who consults a physician with the complaint of abnormal bleeding does so because she is concerned and postponement of the examination is not justifiable.

TABLE III. TIME WASTED

	Days	Weeks	Months	Time Wasted (Months)
Average time interval from first symptom to first examination.	178.	25.48	6.4	6.4
Average time interval from first examination to first treatment.	32.	4.62	1.1	1.1

Average total time wasted 7.5 months

first examination to the first treatment. The average time wasted for all cases from the appearance of the first symptom to the institution of therapy was 7.5 months. Approximately 6.4 months of this time waste may be attributed to the patient chiefly because of her failure to seek medical attention. Examination of records of patients having had their first examination elsewhere shows that, in this group, there was a delay of 7.4 months between the first symptom and the commencement of treatment, of which six months could be attributed to the patient for the reason mentioned above. Delay after examination may be due to failure on the part of the physician to recognize the disease, or if recognized, failure to properly impress upon the patient the importance of immediate therapy. It is our feeling that at least a part of this delay may be attributed to time required for making financial arrangements necessary for treatment. In many instances it was necessary for

CANCER OF THE CERVIX—TODD

TABLE IV. AVERAGE DURATION OF SYMPTOMS BEFORE THERAPY STARTED AT THE U. OF M. HOSPITAL

Admittance clinical classification	Number of cases	Average duration of symptoms in weeks before therapy started
I	24	12.7
II	66	18.7
III	162	28.7
IVA	269	31.9
IVB	65	38.7
IVC	6	49.5

the patient to return home, or if at home, to apply for financial aid through the local agencies before treatment could be started. We believe that this may have accounted, in part at least, for the loss of time attributed to the physician.

Time Lost by Physician.—In our study the time wasted by the physician (Table III) is considerably less than the six months reported by Miller in 1933. Interestingly enough the average time from the first symptom to the first examination in his series was 6.2 months, about the same as observed by us. In the follow-up report by Collins there was a time loss from the first symptom to the first examination of seven months and a time loss of 2.25 months from the first examination to the first treatment. Assuming that the Michigan and Iowa physicians are equally capable it appears that the recent educational programs have focused the attention of the average physician upon the close correlation between abnormal bleeding and cancer but have failed to impress the lay mind to any degree. Apparently most physicians are alert and are making every effort to detect the presence of cancer. How great an influence the few physicians who fail to keep up with modern trends influence these figures, is, of course, difficult to determine. According to a report of the Cancer Commission of the Pennsylvania State Medical Society⁴ many years ago it was estimated that 10 per cent of the physicians, usually those who failed to attend medical meetings and who seldom read medical journals, were responsible for 90 per cent of the time waste attributed to

TABLE V. CORRELATION BETWEEN SURVIVAL RATE AND DURATION OF SYMPTOMS PRIOR TO TREATMENT

Duration of symptoms in months	5-year Group	
	No. of cases	% living 7-1-37
0 - 3	15	53.3
3 - 6	24	29.2
6 - 9	13	30.8
9-12	7	28.6
12-15	14	42.9
15-18	1	100.0
18-21	1	00.0
21-24		
24 & over	1	00.0

physicians. We found that in those cases having their first examination at the University Hospital there was an average time loss of eleven days attributable to the staff. This delay is time required to secure state or county orders to cover the costs of hospitalization and treatment. This same factor, as already indicated, must be considered in the group having their first examination elsewhere.

An average of 7.5 months for all cases from the onset of the first symptom to the institution of therapy should constitute a challenge to every practicing physician and every organization having lay education regarding cancer as its objective.

Table IV shows the average duration of symptoms in weeks before the institution of therapy for the different clinical groups or classifications—i.e. the extent of the disease on admittance. As the average duration of symptoms before the institution of therapy progressively increases the clinical grouping naturally advances. While this is what may be normally expected, this does not represent the true picture for all cases. Intelligent patients with symptoms of only a few weeks' duration have been seen with carcinomatous involvement so extensive as to render the prognosis hopeless from the start. The cor-

JOUR. M.S.M.S.

CANCER OF THE CERVIX—TODD

ollary is also true for individuals have been seen with relatively early lesions but with prolonged symptoms extending over many months.

of symptoms before therapy was started in our grade IV-A cases) the prognosis is zero, (Chart IV). Miller previously reported this percentage decrease in chances for cure as 20 per cent per month. Reconsideration of Table III in the light of this evidence reveals ample explanation for the low percentage of long survivors from the treatment of cancer of the cervix

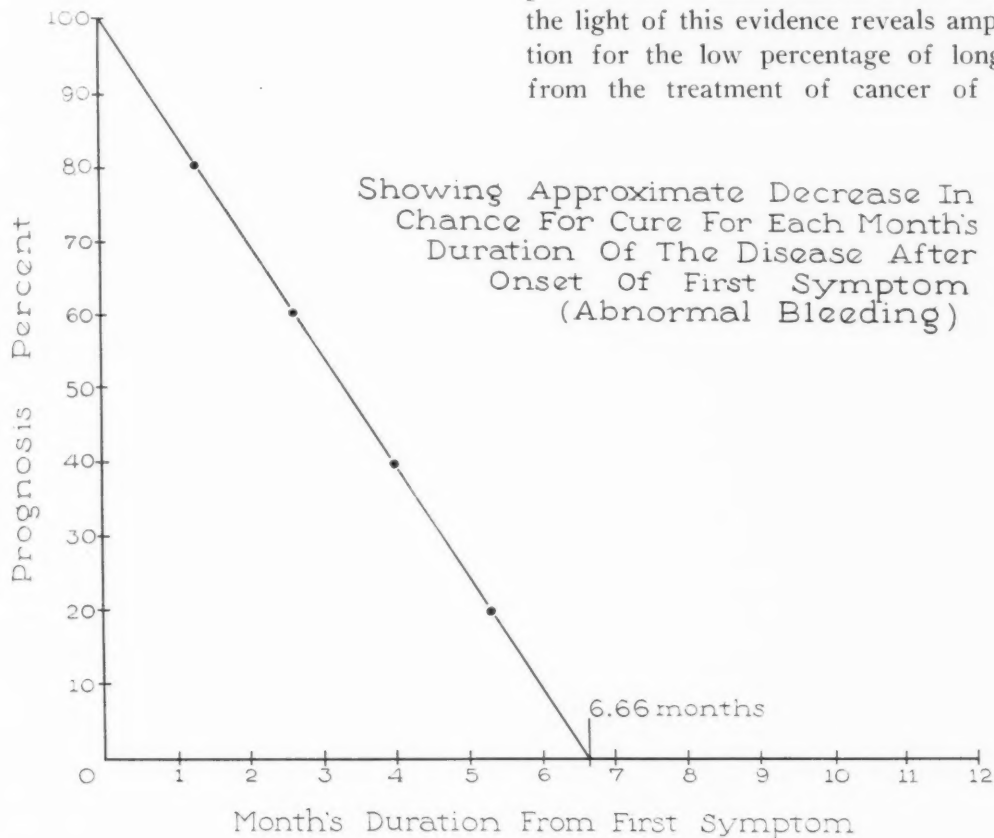


Chart IV.

Adjustments.—In Table V an attempt has been made to correlate survival rate and duration of symptoms prior to treatment. The fact that there were some patients who had symptoms more than a year before treatment was started and have survived five years suggests that in some cases at least there is not the close correlation between the extent of the disease and the duration of symptoms as suggested in Table IV.

Again referring to Table IV, if it is assumed that in the clinical grade IV cases (with parametrial extension) that the disease is beyond hope of cure then the chance for cure decreases 3.34 per cent per week or approximately 15 per cent per month. This figure is arrived at by plotting the duration of symptoms against the chance for cure. It is assumed that in the absence of symptoms the chance for cure would be one hundred per cent. When there have been symptoms for 31.9 weeks (the average duration

inasmuch as the average duration of symptoms in all cases before the institution of the therapy is 7.5 months.

Immediate Diagnosis Made.—Chart V shows the percentage of cases diagnosed by the local physicians at the time of the first consultation with relation to the duration of symptoms. Obviously as the duration of symptoms before medical attention increases the percentage of cases diagnosed also rises. The fact that some cases do not have symptoms early in the course of the disease is important. In this series there are 26 clinical group IV-A cases in whom diagnosis was made and treatment commenced within six weeks of the appearance of the first symptom. In a number of these cases the diagnosis was made in the absence of symptoms during the course of routine investigation for other complaints. Clearly lay educational programs must do more than emphasize the importance of

abnormal bleeding; they must also educate women to seek periodic pelvic examination, particularly after the thirty-fifth year.

- the patient to seek medical attention.
5. In this series the chance for cure decreased at the rate of approximately fifteen per

Percent Diagnosed in Relation to duration of symptoms

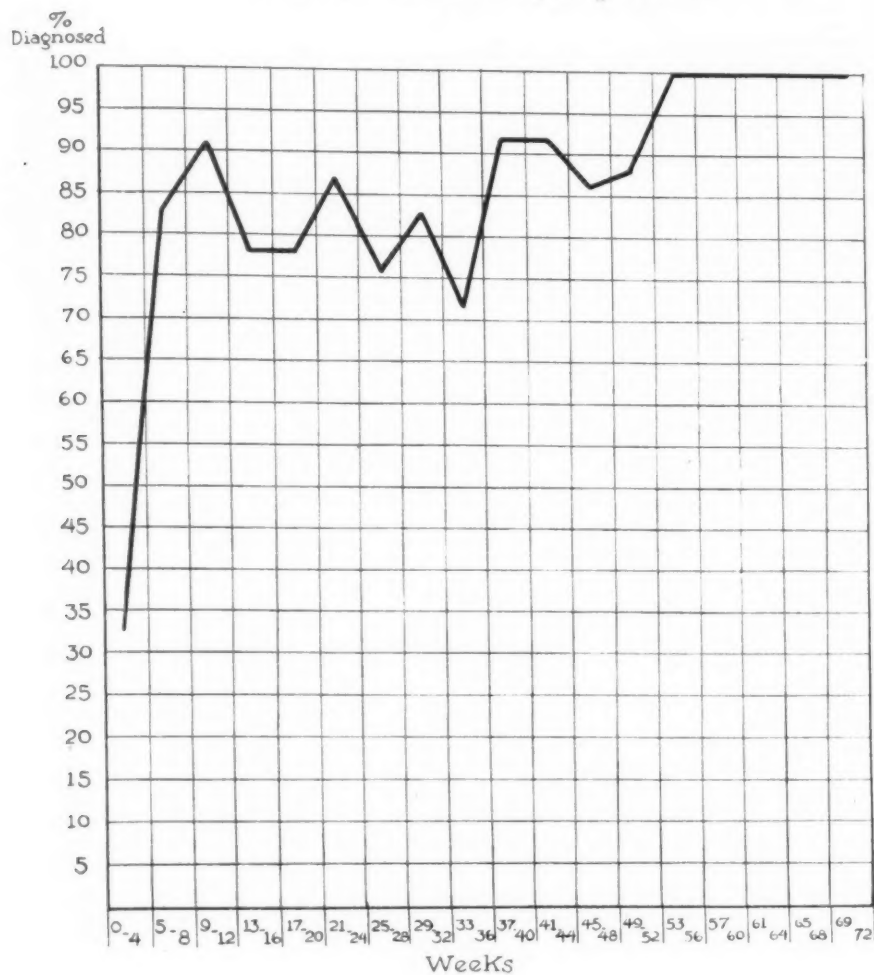


Chart V.

Conclusions

1. The chief symptoms of cervical cancer are abnormal bleeding and offensive discharge. This abnormal bleeding is usually characterized by the fact that it is intermenstrual, progressive, prone to follow trauma and is painless.
2. The longer the duration of these symptoms the more advanced the disease is likely to be.
3. The average time lost from the appearance of the first symptom to the institution of therapy in this series is 7.5 months.
4. Most of the time lost before treatment can be attributed to a failure on the part of

cent per month after the appearance of the first symptom.

6. If the reports of earlier observers, notably Miller and Collins, can be compared with our observation, and we believe they can, then it appears that the time waste attributable to physicians has materially decreased.
7. Women must be educated to seek periodic medical examination if early therapy is to become more than a cherished hope.

Bibliography

1. Collins, R. M.: Additional data on uterine cancer. *Jour. Iowa State Med. Soc.*, 24:71-75, (February) 1934.
2. Miller, N. F.: Some data on uterine cancer. *Jour. Iowa State Med. Soc.*, 23:132-135, (March) 1933.
3. Miller, N. F., and Folsome, C. E.: Carcinoma of the cervix. *Am. Jour. Obstet. and Gynec.*, 36:545-561, (October) 1938.
4. Quoted by Miller.²

Moniliasis

Sulfapyridine Treatment

By Raymond S. Van Bree, M.D.

Grand Rapids, Michigan

R. S. VAN BREE, M.D.

M.D., University of Michigan Medical School, 1929. Member, Attending Surgical Staff St. Mary's Hospital. Member of the Michigan State Medical Society.

■ WHILE monilia are recognized as the cause of various pathological conditions, there are relatively few reports in the literature in which the etiology is clearly established. This is particularly true of lesions other than dermatologic. This report concerns a case of gastro-intestinal and pulmonary moniliasis, in which the diagnosis was confirmed by laboratory findings and in which sulfapyridine was used for treatment.

Case History

The patient was first seen June 25, 1937, complaining of acute distention and marked spastic pain in the abdomen and a slight neuritis involving the right shoulder.

He stated he had been having these gastro-intestinal attacks off and on for the past twenty years, and they had gradually increased in intensity and duration. During the last year of the world war, he was gassed with mustard gas, and at that time almost died. Shortly thereafter he was discharged from the army with the following diagnosis: "1. Tuberculosis, pulmonary chronic, active, moderately advanced. 2. Chronic Bronchitis. Prognosis: Favorable."

He was placed under treatment in an army hospital for several years. Attacks of pain in the abdomen started at about that time and distention began making its appearance in about 1934. They were usually more severe at night. At the onset of one of these attacks, a severe distension of the abdomen would appear within fifteen minutes to one-half hour and continue for a period of twenty-four hours to one week. Neuritic pains in the right shoulder appeared two or three times during recent attacks.

Past History.—The patient had never to his knowledge had a skin disease. Several times tuberculous adhesions in the abdomen had been suspected and operations suggested. In June, 1937, a diagnosis was made by a reputable neurologist of "Post-influenzal radiculitis and inflammation of abdominal sympathetics."

Physical Examination.—On examination, patient was a well-nourished male, weighing approximately 145 pounds, medium height, dark skinned, aged forty-nine. Temperature, pulse and respirations normal. Eyes, ears, nose and throat negative. Chest negative, lung fields

clear and resonant, heart sounds normal, abdomen acutely distended. No particular points of tenderness were elicited. On auscultation, intestinal action could be heard. The rest of the examination was negative, except for slight tenderness over circumflex nerve.

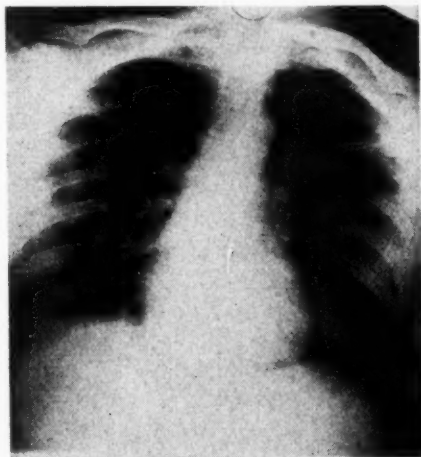


Fig. 1.

Progress.—Patient was treated empirically with intravenous sodium salicylate and the acute attack subsided in about three days; the neuritis did not return. This method of treatment was continued until September 17, 1939, with attacks reoccurring approximately every two or four weeks. Results of above treatment were indifferent.

During the month of September, 1939, the attacks of pain and distention gradually increased in frequency and violence until they merged into one continuous attack. On September 17, 1939, the patient was apparently suffering from an upper respiratory infection and pneumonia was suspected. He consented to hospitalization at this date. Previous to this he had made periodic trips to government hospitals for observations but always returned with no definite diagnosis.

Laboratory Examination.—X-ray reports on the chest on September 17, 1939, were negative. Report on the abdomen was as follows: "Non-rotation of the colon considered a congenital anomaly. Generalized slowing up in passage of barium through the small bowel, the exact etiology of which is not determined. No organic pathology to account for the slowing is observed and may be incident to the congenital anomaly although this is thought unlikely. No obvious bowel obstruction is demonstrated in these films." The Kahn test was negative, urine negative, except for slight traces of albumin and occasional pus cell. No tubercle bacilli were found in feces or sputum. No pneumococci were found in sputum.

Further Progress.—The attack gradually subsided sufficiently so that the patient decided to go home on September 25, 1939. Shortly after he returned home, distention and pain again increased in severity and

became continuous. Upon his complaint that the right side of his throat often felt scratchy during these attacks, a throat culture was taken and sent to the Michigan Department of Health Laboratory, which reported "Fungi resembling monilia were found." Sub-

merging into each other and continuing to January 1, 1940.

Treatment—On January 1, 1940, the patient suffered a relapse, with pain in the chest, and 103° temperature rectally. On January 2, 60 grs. of sulfapyridine



Fig. 2.



Fig. 3.

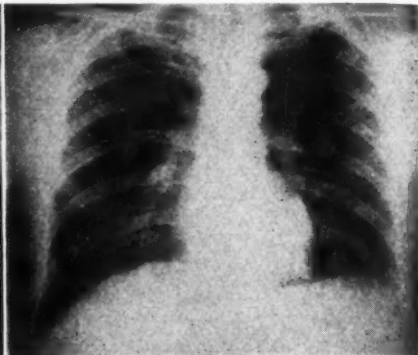


Fig. 4.

sequently, the cultures were studied further and accepted to be monilia. Death was produced in a rabbit by injection of the cultures, the organisms were recovered and the histologic picture found compatible with an infection with pathogenic fungi. Monilia were also found in the sputum and stool but not in the urine of the patient.

After the patient had been treated with gentian violet applications to the throat for ten days, gall-bladder drainage was done and monilia were isolated from the bile. An antigen was made from a killed fungus culture and both scratch and intradermal tests were made. There were only moderate local reactions, but in both instances the severity of the abdominal symptoms was noticeably increased for a period of eighteen to twenty-four hours. On December 18, 1939, a solution of gentian violet was given intravenously. It was afterwards discovered that the solution had been made up to 3 per cent instead of 1 per cent. After 8 c.c. had been slowly injected the patient complained of moderate burning in the mid-sternal region. Fourteen hours later the patient was sent into the hospital.

On admittance, the patient had marked dyspnea and pain in the chest. Temperature was 102.6° and remained around 101° for the next five days. Coarse râles were heard over both lung bases, extending up to the nipple on both sides. Slight dullness was found a little later on the left side between the fourth and seventh ribs with increased breath sound over this area. The white blood count was 15,000 with 77 per cent polymorphonuclears, 17 per cent large lymphocytes, 4 per cent lymphocytes, and 2 per cent transitionals. Sputum examination, on entrance, showed a few pneumococci which did not react to diagnostic serum mixtures, a, b, c, d, e, or f. Patient remained almost continuously in the oxygen tent for ten days, pain in the chest, and dyspnea gradually subsiding. Temperature gradually subsided from 102.6° to normal in six days. During the first thirteen days, the patient had moderately severe attacks of distention and pain

was given during a period of twenty-four hours. X-ray of this date shows pneumonic consolidation of left lung with clearing up in its central portion, showing evidence of beginning resolution. White blood count was 43,200 with 93 per cent polymorphonuclear. Sulfapyridine was reduced on January 3 to 40 grs. and temperature became normal on January 4, with a daily afternoon rise to 101° until January 7. Sputum examination showed no pneumococci at the height of the fever. Temperature stayed normal thereafter and patient was remarkably free from pulmonary symptoms. During this period, a dose of 40 grs. of sulfapyridine was given daily. On January 10 it was reduced to 30 grs.; on January 13, to 20 grs.; and on January 15 to 7½ grs. The patient continued on 7½ grs. sulfapyridine daily until February 3, when the dosage was increased to 15 grs. daily during an upper respiratory infection. The drug was discontinued on February 9.

During the use of the sulfapyridine the patient did not have any pain or distention except for one moderate attack lasting twelve hours on January 29 immediately following an intradermal test of the monilia antigen. The local skin reaction for this test was 2 plus for twenty-four hours. The wheal, however, remained raised and reddened for over two weeks.

After the temperature became normal on January 7 the patient raised a small amount of mucopurulent sputum each day, at first blood-tinged. The report of x-ray taken on January 16 was "Delayed resolution in pneumonic consolidation in lower left lobe. The possibility of tuberculosis should, we believe, be considered in these cases. We suggest sputum examination." This observation was interesting in view of the fact that Stovall and Greeley have stated that pulmonary moniliasis in "the severe type is much like tuberculosis and in our experience is often mistaken for it." (ref. Stoval and Greeley: *Bronchomycosis*, Jour. A.M.A., 91:1346, [Nov. 3] 1928.) The tuberculin test of Mantoux type, 0.1 and 1 mg. proved negative.

Sputum examination showed no pneumococci or *B. tuberculosis* but continued to show monilia. Whether monilia was the primary cause of the pneumonic condition or secondary invader on top of irritation caused by intravenous gentian violet is a question which remains unsettled.

On February 10, the day after sulfapyridine had been discontinued, specimens of feces and mucopurulent sputum were examined and monilia again found but in very small numbers. Further x-ray reports showed continued improvement of pulmonary condition and patient was sent home on February 14.

On February 15, patient again complained of gas pains and distention. Sulfapyridine grs. 14 was given at 7:30 P.M. and pain and distention quieted down considerably, improvement being noted for six hours following administration of the drug. Another 15 grs. was given at 11 A.M. on February 17, and, following this, pain and distention were entirely gone by 5 P.M. There was no further attack until February 29 at 3:30 P.M. At 6:30 P.M. 15 grs. of sulphapyridine were given and the dose repeated at 11 P.M. By 4 A.M. the next morning, the pain was gone and by 9 A.M. the bloating had subsided. The dose of 15 grs. sulfapyridine was repeated at 2 P.M. On April 25, the patient had another violent attack of distention and pain starting suddenly at 7 P.M. He was given 15 grs. sulfapyridine at 8 P.M., 15 grs. at 2 A.M. (April 26) and 7½ grs. at 7 A.M. By 2 P.M. April 26, all pain and distention had disappeared. There have been no further attacks to date, May 31, 1940. An x-ray examination, March 4, 1940, showed "marked improvement in the pneumonites . . . since last examination."

Summary

A case has been reported of a patient suffering from a recent pneumonic condition and previous gastro-intestinal distress which extended over approximately 18 years, dating back to a clinical diagnosis of tuberculosis, unconfirmed.

Monilia were found in throat cultures, bile, feces and sputum. Pathogenicity was demonstrated in the rabbit.

There was clinical evidence of amelioration of symptoms as a result of sulfapyridine therapy.

NATIONAL PHYSICIANS COMMITTEE

As a part of the general program of education and public enlightenment, the National Physicians Committee has arranged, through E. Hofer & Sons, to provide more than 12,000 weekly, bi-weekly and tri-weekly and foreign language newspapers throughout the United States with a weekly "Editorial Service." Practically every week there is furnished a short, concise article or editorial dealing with the "medical issue" and stressing the advantages of our system of independent practice. These more than 12,000 newspapers reach more than forty million (40,000,000) readers weekly.

MARCH, 1941

Sulfamethylthiazol In Staphylococcus Albus Bacteremia

Secondary to a Carbuncle of the Nose

By D. L. Finch, M.D.

Augusta, Michigan

in collaboration with

S. Alpiner, M.D., and A. A. Humphrey, M.D.

Battle Creek, Michigan

D. L. FINCH, M.D.

M.D., University of Michigan, 1933. Member of the Michigan State Medical Society.

SAM ALPNER, M.D.

M.D., Wayne University College of Medicine, 1938. Resident in Leila Y. Post Montgomery Hospital.

ARTHUR A. HUMPHREY, M.D.

M.D., Northwestern University Medical School, 1928. Pathologist, Leila Y. Post Montgomery Hospital, Community Hospital, and Battle Creek Sanitarium. Pathological consultant for the Michigan Community Health Project. Member of the Michigan State Medical Society.

■ SULFAMETHYLTHIAZOL (2 [para-amino-benzene-sulfonamido] 4-methyl-thiazol), a new sulfanilamide thiazol derivative, has been distributed for experimental use and clinical investigation. Barlow¹ has shown this drug to exert a pronounced action against experimental staphylococcal, streptococcal and pneumococcal infections, both in vitro and in vivo. Long⁶ has carried out studies on the absorption, distribution and excretion of the sulfathiazol derivatives in man. He found that the drug is excreted much more rapidly than is sulfapyridine. The drug is excreted both in the urine and the feces. The drug seems to be distributed in exudates and transudates in about the same ratio that has been noted previously for sulfanilamide. Herrell⁵ described the clinical use of sulfamethylthiazol in a case of staphylococcus aureus bacteremia secondary to a staphylococcus infected postoperative incision with very favorable results. Helmholz⁴ has shown that the two compounds, sulfamethylthiazol and sulfathiazol, have a definite bacteriostatic effect on strains of staphylococcus aureus and streptococcus fecalis. He found that in urinary infections, the latter organisms were killed off by these drugs. Pool and Cook² have found the new thiazol drugs to be less toxic than either sulfanilamide or sulfapyridine. Neither sulfa-

methylthiazol nor sulfathiazol is conjugated by the body to the extent that sulfanilamide and sulfapyridine is conjugated. Fitch³ described the use of sulfathiazol in a case of spinal epidural abscess caused by staphylococcus aureus complicated by septicemia and pyemia with favorable results.

We wish to present a case of staphylococcus albus bacteremia complicating a carbuncle of the nose which was successfully treated by the use of sulfamethylthiazol.* The drug was administered after failure to obtain clinical improvement from sulfanilamide and sulfapyridine. The drug was given in doses of 1 gram every four hours after an initial dose of 4 grams. On only one occasion did the patient vomit a short time after being given the drug, but it was tolerated well on all other occasions.

Case Report

G. B., a well developed girl of sixteen years, was admitted to Leila Y. Post Montgomery Hospital, Battle Creek, Michigan, on February 23, 1939. Her only complaint was that of a pimple on the right side of nose in the right nostril for the past four days. This was gradually getting larger, tender and painful.

Physical examination disclosed a small carbuncle in the right nostril, the size of a small pea. This area was reddened and tender. No fluctuation was present. The anterior cervical glands on the right side of the neck were slightly palpable. The rest of the physical examination was negative, and no fever was present on admittance. The white blood count was 16,500 with 64 per cent polymorphonuclears. Urinalysis was essentially negative. The patient was put on sulfanilamide, 15 grains every six hours, along with wet boracic compresses to the nose. Despite this treatment, the patient's temperature gradually increased to 103.6° F. in four days. The carbuncle of the nose had burrowed posteriorly into the vestibule of the mouth. On February 27, 1940, fluctuation appeared in the mouth above the upper lip where a small incision was made, and several drops of pus exuded. The patient was put on a peroxide mouth wash. The following day, the patient had a moderately severe chill lasting about fifteen minutes, followed by a temperature of 105.2° F. From February 29 to March 3 the patient ran a septic course with the temperature ranging from 100° F. to 106° F. Her general condition was becoming poorer associated with apathy, mental sluggishness, no appetite and generalized weakness.

A blood culture was taken following the chill and a Gram positive Staphylococcus was found. Repeated blood cultures demonstrated the organism to be Staphylococcus albus. During this entire time the patient was under sulfanilamide treatment without any im-

provement. On March 2, 1940, she was put on sulfapyridine without any remarkable change in her condition. The following day she was transfused with 250 c.c. of citrated blood. This was followed by a febrile reaction reaching 107° F. On March 3, 1940, sulfamethylthiazol was administered with an initial dose of 4 grams followed by 1 gram every four hours.

Within twenty-four hours the temperature dropped to 100° F. and within thirty-six hours after treatment was started with the new drug, the temperature became normal and remained that way until her discharge on March 20, 1940. The patient made a remarkable recovery. The carbuncle of the nose was completely gone two days after initiation of sulfamethylthiazol treatment.

Four repeated cultures taken after the onset of thiazol treatment continued to be positive for Staphylococcus albus. On March 14, 1940, eleven days after beginning of sulfamethylthiazol treatment, the first sterile blood culture was reported. This has been repeated on four different occasions and the blood stream reported sterile. The patient's general condition has remained excellent since her discharge.

Repeated urinalyses have shown no renal damage. Twenty-three blood counts were taken through the illness. The red blood cells never dropped below 3,130,000 and the lowest hemoglobin was 57 per cent at the same time this count was reported. Two transfusions by the indirect citrate method were given. The white blood count did not show any leukopenia but there was a tendency to a granulocytopenia, the average granulocyte count being about 50 per cent, while the lowest level was 30 per cent.

Summary

A sixteen-year-old child had a bacteremia caused by a carbuncle of the right nostril which burrowed into the vestibule of the mouth. The elevated temperature and a blood culture positive for Staphylococcus albus indicated a bacteremia. Sulfamethylthiazol in moderate amounts were given with very little toxicity. After eleven days of therapy, the blood stream became sterile and has remained so. The patient made a remarkable recovery.

Bibliography

1. Barlow, O. W., and Womburger: Proc. Soc. Exper. Biol. and Med., 42:762; (Dec.) 1939.
2. Cook, E. N. and Pool, T. L.: Sulfathiazol and sulfamethylthiazol in the treatment of infections of the urinary tract. Proc. Staff Meetings Mayo Clinic, (Feb. 21) 1940.
3. Fitch, T.: Sulfathiazol in staphylococcus aureus. Arch. Ped., 57:119-124, (Feb.) 1940.
4. Helmholtz, H. F.: The bactericidal effect of sulfathiazole and sulfamethylthiazole on bacteria found in urinary infections. Proc. Staff Meetings Mayo Clinic, (Jan. 31) 1940.
5. Herrell, W. E., and Brown, A. E.: The clinical use of sulfamethylthiazole in infections caused by staphylococcus aureus. Proc. Staff Meetings Mayo Clinic, (Nov. 29) 1939.
6. Long, Perrin H.: Thiazole derivatives of sulfanilamide, Jour. A.M.A., 114:870-871, (March 9) 1940.

*Furnished through the Medical Research Department of the Winthrop Chemical Company for investigational purposes.

Experience with the Blood Bank*

By Osborne A. Brines, M.D., F.A.C.P.

and

J. Edward Manning, M.D.

Detroit, Michigan

OSBORNE A. BRINES, M.D.

M.D., Detroit College of Medicine and Surgery, 1927. Associate Professor of Pathology, Wayne University. Pathologist to Receiving Hospital and Alexander Blain Hospital, Detroit. Diplomate of American Board of Pathology.

JOHN EDWARD MANNING, M.D.

M.D., Western Reserve University School of Medicine, 1937. Assistant Resident in Surgery, Receiving Hospital, Detroit.

of the large hospitals in this country have instituted such a service.

Overcoming Objections

The blood bank at Detroit Receiving Hospital had its beginning in a small way during the summer of 1937 when an occasional bottle of citrated blood would be placed in the ice box of the main laboratory for several days until the patient for whom it had been taken was in need of a transfusion. During this period of development there were many objections from the various services to using a common blood bank, the main basis for objection being the fear that blood put into the bank would be used for another service and not replaced. During this period it was common practice for some of the services to hide blood in ward refrigerators, thereby establishing a private blood bank for individual services. During the first year the bank did not flourish both because the house staff did not readily adapt itself to the idea of administering stored blood and because there was even active opposition to the practice. However, the value of having blood always available became more and more appreciated, and at the beginning of the second year the attitude toward the bank changed abruptly and for the past two years the bank has been accepted as an indispensable adjunct to institutional medical and surgical practice.

During this period 42,000 patients have been admitted to the hospital and over 4,000 transfusions administered, all of which have been given with bank blood.

Considerable financial saving has of course been possible, but the chief value of the bank has been the ready availability of blood when needed and the elimination of the usual confusion attending the selection of suitable donors for transfusions in emergency situations which frequently arise during the night or on week-ends, holidays, et cetera.

It is readily admitted that the financial aspect of blood bank operation, particularly that involving the laboratory examination of donors, is much simpler in a charity hospital than it might be in a private institution. For this reason and because of the large number of traumatic cases cared for, the bank is a particular necessity in a hospital of this type.

■ MANY medical ideas, fashions and procedures appear to enjoy recurring cycles of new popularity, and so it is not surprising that we are again using a method of blood transfusion which we practically discarded about twenty years ago. In 1923 one of us (OAB),² in discussing direct transfusions, referred to a method of transfusing citrated blood which we considered satisfactory, but recommended the direct transfusion technic as preferable. Recently that same apparatus and technic, slightly modified, has largely replaced direct transfusion methods. The transfusing of unmodified blood, while unquestionably of greater benefit to the patient, never ceased to be a rather highly specialized technic. Generally speaking a blood transfusion is a hospital procedure and the comparative simplicity of the indirect transfusion has led to its widespread adoption in institutional practice. While this has been somewhat regretful, it has led to important developments and advances.

The imagination of both laymen and physicians was stimulated a few years ago by popular accounts from Russia of the transfusing of cadaver blood. It is difficult to find clear-cut descriptions in the medical literature of results obtained by Russian investigators,⁹ but at least the idea of blood storage was firmly implanted. Our first serious consideration was given the matter about four years ago after discussing the possibility of blood refrigeration with Fantus,⁷ who at that time was contemplating such a step for Cook County Hospital. There was apparently very little blood banking done in this country prior to 1937 but in the past three years most

*From the Department of Pathology, Receiving Hospital, and Wayne University, Detroit, Michigan.

Source of Blood

An important consideration, of course, in the operation of a blood bank is the source of blood. It is customary for a member of the resident staff to approach the relatives or friends of any patient presenting indications for a transfusion. The need is explained to the family without frightening them, the point being made that a transfusion is no longer a life and death procedure but is a commonly employed form of therapy. Frequently such a plea results in more blood being contributed for that patient than is necessary, the excess profit being used for other patients who have no friends or relatives. We never have encountered any difficulty with donors who felt that they had contributed too much blood.

Administration of the Bank

Eight clinical services participate in the bank which is controlled by a committee composed of a resident from each major service, including pathology inasmuch as the department of pathology is chiefly responsible for the operation and administration of the bank. This committee meets once a week at which time problems pertaining to the bank are discussed. It has not been found necessary to establish a transfusion team; the internes, under supervision and with modern equipment, are able to take and give blood without difficulty.

Good bookkeeping is necessary in order that all blood is fully accounted for at all times and that proper data are available for statistical purposes. A separate balance sheet is kept for each service and a report is rendered every forty-eight hours showing the credit or debit of each service. When the interne deposits blood in the bank the technician in charge gives that blood an identifying number and credits his service with the amount of blood deposited; the reverse is done when blood is withdrawn. The intern depositing the blood fills out a "donor card" upon which is written pertinent data concerning the donor including the date, donor's name and address, history of venereal disease, serum sensitivity, allergy or malaria, and the number of hours since the last meal, together with a statement that he or she is physically fit to serve as donor from a clinical viewpoint. Later the blood group and result of the blood test for syphilis are entered on this card.

When blood is withdrawn from the bank a cross matching with the recipient is performed and a "recipient card" of a different color is attached in place of the "donor card." The technician writes the bank blood number on this card and later the intern records such data as date, name of recipient, case number, ward, service, amount of blood given, the indication for and time required to give the transfusion. Various signs and symptoms of a reaction are listed on this card such as chill, dyspnea, cyanosis, pain, urticaria, et cetera. These are checked when noted and space is available for describing any reaction which might occur. On this card is also space for recording temperature readings taken before the transfusion and every half hour after the start of the transfusion, regardless of the time required for the blood to run in. Later these cards are stapled back to back and a complete record of the transfusion is thus provided. The pairing of these cards insures against failure to fill out the recipient card.

Technic of Use

The transfusion apparatus used in this hospital is essentially that described by Cooksey.⁵ The flask has a capacity of 700 c.c. and is equipped with a rubber bulb for creating a partial vacuum. 100 c.c. of a 2 per cent solution of sodium citrate are placed in the flask for 500 c.c. of blood. The transfusion sets, as well as all intravenous apparatus, are cleaned and sterilized in a central supply room by two nurses who are experienced in this work. The set is completely assembled before sterilization, thus reducing the chance of contamination on the ward. The citrate solution is not placed in the flask before sterilization chiefly because it is felt that aspirating the citrate solution into the flask before the transfusion has the advantage of moistening all surfaces with the anticoagulant.

Certain minor technical steps and procedures are important. Gentle handling of the blood at all times is insisted upon because agitation hastens hemolysis and increases the incidence of post-transfusion reactions. A sample of uncitrated donor's blood is placed in a small test tube which is taped to the large flask and from this necessary laboratory tests can be made. These tests are not performed until the blood is deposited in the bank. Positive blood tests

for syphilis among our donors have not exceeded 2 per cent and we feel that the discarding of this negligible amount of blood is less objectionable than the confusion and annoyance entailed in checking the donors previously. The temperature of the refrigerator should be kept between 0° and 5° C. at all times, preferably around 2°. Our refrigerator has an automatic recording thermometer which is a distinct advantage.

Technical Experiences

Our experiences with the bank have been interesting and instructive and our ideas regarding the relative importance of various factors have changed several times.

At the beginning we believed that the blood could be stored for at least three weeks. Now we believe that a maximum of a week is preferable.

It has been stated that the life span of fresh erythrocytes in the circulation of the recipient is about 120 days and that span decreases six days with each day of storage. Furthermore, it has been found that the prothrombin content of the plasma decreases to a level of 60 per cent at the end of the third week.⁸ Therefore, if blood is given either to correct anemia or for its hemostatic effect it should be comparatively fresh. Donor's cell suspensions are kept taped to the flask of blood while it is in the bank, and before using a direct matching is performed between recipient's serum and donor's cells.

As previously stated by one of us (OAB),^{3,4} type O (Moss IV) donors can be used universally with safety. This statement, while obviously true, has been challenged by several writers and even today the opinion is stubbornly adhered to by some that donors of the recipient's group are preferable.

Experience has proved that the use of universal donors is a safe practice.

The reason is clear: the cells of group O blood possess no agglutinogens and, therefore, cannot be agglutinated. This is an important point and has contributed considerably to the safety of blood transfusions.

In the experience of Diggs and Keith,⁶ hemolysis of bank blood is an important factor in the production of transfusion reactions. Following this suggestion we performed a hemolysis test, consisting simply of centrifuging a small amount of thoroughly mixed blood taken from the transfusion flask. In several hundred consecutive transfusions we found that after the tenth day hemolysis increased rapidly, but was negligible within the first week, seldom more than one or two plus and usually none. A study of 400 transfusions convinced us that hemolysis up to and including two plus was not a factor in producing post-transfusion reactions and we concluded that in giving bank blood which had been properly handled and stored at the proper temperature for less than ten days the hemolysis factor could be disregarded.

Other laboratory tests to be performed on banked blood should be considered. The percentage of hemoglobin should doubtless be determined but a routine leukocyte count is hardly necessary. Blood cultures have been run on over 100 bank bloods at the time of administration but the blood was given without waiting for the result. In several instances the cultures were positive for non-pathogenic micro-organisms but no reactions or other ill effects were produced.

Considering the fact that any bacteria present will be in small numbers and probably non-pathogenic, and the natural bactericidal properties of the recipient's blood, it would seem that the taking of blood cultures routinely from bank blood when it is used is both unnecessary and impractical.

Furthermore, removing samples of blood from the storage flask for various laboratory tests invites contamination and should be avoided.

Brem, Zeiler and Hammack¹ and others have stated that the use of fasting donors reduces the incidence of post-transfusion reactions. In 1,500 transfusions given during the past eight months at this hospital the results have been carefully studied and recorded. Attention has been given to the interval between the time of the last meal and the giving of blood and we have found that there has been not the

slightest relationship between the two. We have obtained the same information regarding the ingestion of alcohol and the same can be said of alcohol as of food.

The speed of giving the blood has also been studied and we have been forced to the conclusion that the optimum time for a transfusion, as far as reactions are concerned, is from sixty to ninety minutes. Several months ago we discontinued heating the blood before giving it and our figures would indicate that this change has reduced the percentage of reactions. The chief objections to heating appear to be frequent overheating and undesirable agitation while heating. Over 1,000 consecutive transfusions of cold blood have been given, frequently out of the refrigerator less than thirty minutes. The only untoward result of this practice, that we have been able to see, has been a local cooling of the tissues in and around the antecubital fossa and this did not seem to annoy the patient.

To discuss the percentage of post-transfusion reactions is difficult because in no two series of cases are the same criteria used. Because such a discussion has little comparative value it will be omitted here. The amazingly low percentage of reactions in some series would indicate that very liberal criteria are sometimes employed.

It is doubtful if, in the light of present day knowledge and experience, any large or moderate sized hospital would care to function without a blood bank. In our experience it has been a valuable asset in reducing transfusion delay, in eliminating the confusion and extra labor caused by the testing of donors for emergency transfusions, and in a large saving of money formerly spent for professional donors. In the past two years no professional donors have been employed at Receiving Hospital.

One of the most important developments of the blood bank has been in the plasma bank. This will be discussed by us in a subsequent issue of THE JOURNAL.

Bibliography

1. Brem, W. V., Zeiler, A. H., and Hammack, R. W.: Use of fasting donors. *Am. Jour. Med. Sci.*, 175:96, 1928.
2. Brines, Osborne A.: The transfusing of unmodified blood. *Arch. Surg.*, 7:306, 1923.
3. Brines, Osborne A.: The transfusing of unmodified blood (IV): *Arch. Surg.*, 16:1080, 1928.

4. Brines, Osborne A.: Fatal post-transfusion reactions. *Jour. A.M.A.*, 94:1114, (Apr. 12) 1930.
5. Cooksey, W. B.: New apparatus for storing, filtering and administering blood. *Am. Jour. Surg.*, 49:526, 1940.
6. Diggs, L. W., and Keith, A. J.: Problems in blood banking. *Am. Jour. Clin. Path.*, 9:591, 1939.
7. Fantus, B.: Therapy of Cook County Hospital; blood preservation. *Jour. A.M.A.*, 109:128, (July 10) 1937.
8. Lord, J. W., and Postore, J. B.: Plasma prothrombin content of bank blood. *Jour. A.M.A.*, 113:2231, (Dec. 16) 1939.
9. Yudin, S. S.: Transfusion of stored cadaver blood. *Lancet*, 2:361, (Aug. 14) 1937.

Development of the Plasma Bank*

By Osborne A. Brines, M.D., F.A.C.P.

and

J. Edward Manning, M.D.
Detroit, Michigan

OSBORNE A. BRINES, M.D.

M.D., Detroit College of Medicine and Surgery, 1927. Associate Professor of Pathology, Wayne University. Pathologist to Receiving Hospital and Alexander Blain Hospital, Detroit. Diplomate of American Board of Pathology.

JOHN EDWARD MANNING, M.D.

M.D., Western Reserve University School of Medicine, 1937. Assistant Resident in Surgery, Receiving Hospital, Detroit.

■ As was stated in a previous article,⁵ a most fortunate outcome of the blood bank has been the plasma bank. During the past year great interest has developed in the giving of plasma. Considerable impetus was given the subject by the extensive work done on shock by Moon,⁷ and Blalock.^{1,2,3,4} These investigators found that the most serious change undergone in shock was diminution of circulating fluid volume, the capillary walls becoming more permeable, leading to the escape of plasma into the tissues. A vicious cycle is set up with more and more circulating fluid being lost resulting in hemoconcentration. It has been found that the administration of glucose and salt solution has but a fleeting effect upon blood volume, inasmuch as these substances exert no appreciable osmotic pressure within the vessels which might operate to draw lost fluid back into the circulation, but instead are rapidly diffused out through damaged capillary walls into the tissues (Fig. 1). It was obvious that the most satisfactory treatment for shock was the introduction into the blood stream of some substance which would raise

*From the Department of Pathology, Receiving Hospital, and Wayne University, Detroit, Michigan.

osmotic pressure and would not rapidly diffuse out from the circulation. Whole blood partially fulfilled the requirements. However, when hemoconcentration exists there is little advantage to introducing more blood cells which, when not needed, are more or less inert. In other words, under such conditions, a whole blood transfusion really amounts to giving equal amounts of useful and inert material.

Blalock has stressed the use of plasma as the ideal treatment for shock from all causes and it has been known for years that plasma is a valuable therapeutic agent in cases of severe burns. It now seems apparent that plasma is preferable to whole blood in all emergencies where transfusions have been employed in the past except carbon monoxide poisoning, where normal red cells are badly needed. Severe hemorrhage is no exception to this statement because here it is shock and not anemia which endangers the patient's life and which must be combated promptly and forcefully. We are coming to realize that the chief indications for whole blood transfusion are to correct severe acute anemia from hemorrhage after the patient has been restored from shock and to correct severe chronic anemia where drug therapy is either inadequate or impractical, e.g., in preparation of an anemic patient for operation.

Prior to the advent of the blood bank, plasma was not readily available but today it is a natural by-product of the former. Gravitation alone is necessary to separate cells from plasma. Centrifugation yields slightly more plasma but is not necessary. In the beginning it was our practice to separate the plasma from cells only after it had been in the bank for some time (about fourteen days) and apparently was not going to be used. Now we attempt to anticipate the amount of whole blood necessary, being sure to keep an adequate supply of Group O (Moss IV) available, and then to convert the remainder into plasma while it is only a few days old. Berkefeld filtration will produce plasma of superior appearance, and of course would insure sterility, but we do not feel that this is necessary. The fine shreds and flocculi frequently found in plasma, which apparently originate from foam, are not objectionable and more

or less disappear upon agitation. As in the administration of refrigerated blood, it does not appear necessary to heat plasma before using.

At Detroit Receiving Hospital plasma transfusion had its origin in the realization that too

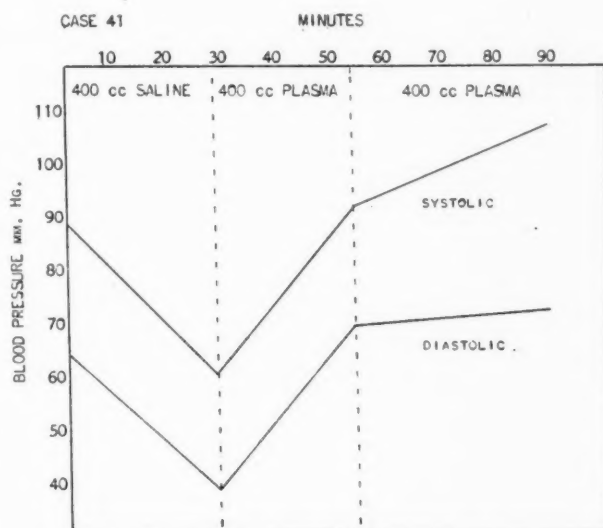


Fig. 1. Chart showing relative therapeutic value of saline and plasma in a case of perforated gastric ulcer.

much blood was being discarded because it was not being used within the limit of fourteen days, which we observed at that time. It was felt that a too valuable therapeutic commodity was being discarded. The surgical staff administered some of this plasma to a few shock and burn cases and were favorably impressed by the results obtained. The success of 40 or 50 such transfusions made it apparent that more than the accidental accumulation of plasma would be necessary to supply the needs of the hospital. A more systematic production of plasma was, therefore, instituted. It was at this time that we became convinced that our supply of plasma should be obtained from fresh bank blood. After separation, the plasma can be kept in the refrigerator for weeks or months. If desired to store for an unusually long time it could be concentrated by lyophilizing.⁶

Preparing the Plasma

The method of preparing plasma in this hospital has been reduced to its simplest form. At the end of twenty-four hours the citrated blood has usually separated into two distinct layers with the supernatant plasma assuming a clear yellow color. At the end of three days maximum packing of the cells has occurred.

TABLE I. AGGLUTININ TITER OF 412 SPECIMENS OF SERUM OR PLASMA

Highest Dilution	Number of Specimens
1-2	3
1-4	18
1-8	34
1-16	60
1-32	100
1-64	82
1-128	68
1-256	32
1-512	14
Over 512.....	1
Total	412

Our method of removing the plasma has been to use a regular blood-taking set and by substituting a capillary or opsonic pipette for the needle adaptor the plasma can be aspirated into a regular transfusion flask, practically a closed system being maintained. Between 25 c.c. and 50 c.c. (about 1 cm.) of plasma will be lost because of cell contamination. If desirous of recovering this small amount, this thin layer of plasma could be transferred to one or two 50 c.c. centrifuge tubes and the cells thrown down. We have felt that the loss of this small amount of plasma was negligible compared with the labor necessary to recover it, together with the possibility of bacterial contamination, and have adhered to careful aspiration to the point where cells begin to be removed. Each flask will contain about 450 c.c. of plasma representing one liter of whole blood.

When the plasma is placed in the refrigerator a "plasma card" of characteristic color is attached, upon which the same information is recorded as upon the "recipient card" in the case of whole blood, except that in addition blood pressure readings taken before and after the transfusion are recorded. The same bookkeeping method is used as was described in blood banking except that when 450-500 c.c. of plasmas is dispensed, the service using it is charged with a liter of blood, making one set of books serve for both commodities.

Technical Advantages of Plasma

The technical advantages of giving plasma are obvious. Firstly, it is a no more complicated procedure than giving glucose intravenously. Secondly, plasma can be administered without determining either the blood group of the plasma or of the recipient. Plasma which is

capable of agglutinating the recipient's cells *in vitro* does not do so when administered intravenously because its agglutinins are thereby so diluted that its agglutinin titer falls to an impotent level. Table I illustrates the agglutinin titer which we found in 412 specimens of serum and plasma. Even plasma possessing a high agglutinin titer has not been found to produce an incompatibility reaction. In about one-half of our plasma transfusions, theoretically incompatible plasma has been given without the production of a single reaction. While we have determined the agglutinin titer of all plasma given, we consider it of no practical importance. It is preferable to pool two or more lots of plasma thereby reducing its agglutinin titer. This is particularly true if unlike types of plasma are pooled. In giving plasma, posttransfusion reactions are negligible and it can be said without reservation that the blood group can be disregarded. The time usually consumed by these laboratory procedures is thus saved, making plasma transfusions more adaptable to emergency situations.

The use of plasma without regard for its blood group is based upon the same fundamental logic as the successful use of universal whole blood donors. The cells of group O blood contain no agglutinogens and plasma contains no blood cells. The two situations are identical from the standpoint of incompatibility, agglutination not being possible in either instance. Being able to disregard blood groups in giving either whole blood or plasma is a decided advantage considering the growing complexity of isohemagglutination and the recognition today of at least six types of blood.⁸ The successful use of plasma without regard for its blood group should eradicate all remaining opposition to the employment of universal whole blood donors.

An additional advantage of plasma over whole blood is the speed with which it can be given. We have no evidence that plasma can be given too rapidly. The majority of the plasma transfusions at this hospital have been given at the rate of 500 c.c. in less than twenty minutes, many in ten minutes and a few in five to seven minutes. Plasma, because of its lower specific gravity and viscosity runs through the needle

much more rapidly than does whole blood. In one instance 500 c.c. of plasma was given in twelve minutes, whereas, with the same needle, apparatus and giving conditions, the subsequent giving of 500 c.c. of whole blood required 88

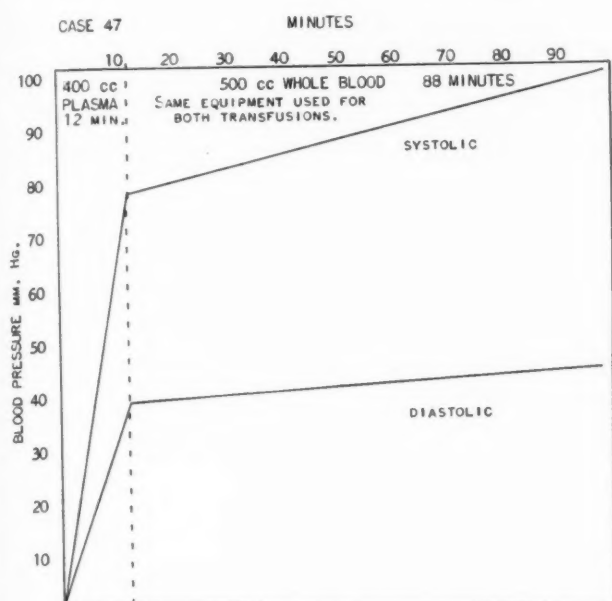


Fig. 2. Chart showing relative speed and therapeutic value of plasma and whole blood transfusion in a case of severe shock.

minutes (Fig. 2). Had this patient been forced to wait for an hour and a half to receive her first 500 c.c. of sustaining fluid, it is felt that the outcome might have been fatal.

Summary

The plasma bank at Receiving Hospital has been the direct and natural out-growth of the blood bank and is rapidly assuming an important rôle in transfusion therapy. Nevertheless, there are sufficient indications for giving both whole blood and plasma to warrant the continuance of the two as integral parts of the blood bank set-up. Considerable reluctance, on the part of the clinical staff, to give plasma had to be overcome in the beginning. This same attitude was exhibited in the early days of the blood bank. However, once either bank is properly used and fully appreciated, any attempt at abolishment would probably meet with firm opposition.

The outstanding advantages of plasma transfusion are the speed and safety with which the plasma can be given and its greater efficacy in the treatment of such conditions as shock, burns, diabetic coma, et cetera. Here the double dosage

of plasma is a great physiological and chemical asset, while blood cells are unnecessary.

One's thoughts naturally turn to the possibility and feasibility of further development of the plasma bank in the direction of seeking other sources of plasma or serum. Possibly the toxicity of animal serum for human administration has been overestimated or the serum could some way be rendered non-toxic. It has been stated by some that human blood serum is more toxic than plasma, some toxic substance or substances being formed or liberated during clotting. This has been disputed by others. Cadaver blood as a source of plasma and serum has to be considered. It has been shown that blood from the jugular vein of non-infectious individuals taken within a few hours after death is bacteria-free. As an extra precaution, Berkeley filtration could be employed. These sources of plasma and serum probably would not have to be resorted to in civil practice, but the necessities of military practice should not be overlooked at this time.

Bibliography

1. Blalock, A.: Mechanism and treatment of experimental shock. *Arch. Surg.*, 15:762, 1927.
2. Blalock, A.: Experimental shock. *Arch. Surg.*, 20:959, 1930.
3. Blalock, A.: Shock of peripheral circulatory failure. *South. Surgeon*, 7:150, 1938.
4. Blalock, A., and Bradburn, H.: Distribution of blood in shock. *Arch. Surg.*, 20:26, 1930.
5. Brines, O. A., and Manning, J. E.: Experience with the blood bank. *Jour. Mich. Med. Soc.*, 40:201, 1941.
6. Flosdorf, E. W., and Mudd, S.: Procedure and apparatus for preservation in lyophilic form of serum and other biological substances. *Jour. Immunol.*, 29:389, 1935.
7. Moon, V. H.: Shock, its mechanism and pathology. *Arch. Path.*, 24:642, 1937.
8. Wiener, A. S.: Blood groups and blood transfusion. Baltimore: Chas. G. Thomas, 1935. P. 12.

SELECTIVE SERVICE REJECTIONS

Rejection of one-third of the men applying for army service in the New York area is remediable by medical care only to a small extent, according to the January issue of the *New York State Journal of Medicine*, official organ of more than 17,000 physicians of the state.

"The defects for which men are being rejected by the army examiners," *The Journal* says, "are those structural and psychologic weaknesses upon which the strenuous nature of field training could be expected to have a detrimental effect."

"The point of view of the army and of civilian medical examiners might be expected to vary considerably concerning the acceptability of certain risks and thus to account for the high percentage of rejections. They should not be taken too seriously even by constitutional pessimists. And, after all, what can be done for flat feet, bow legs, and perforated eardrums?"

Unfitness for medical service is not necessarily an index of health, according to *The Journal*, though "some of our socialist acquaintances start right away to yell louder for state medicine."—MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Rheumatic Fever

Preventive Aspects*

By Herman H. Riecker, M.D.

Ann Arbor, Michigan

HERMAN H. RIECKER, M.D.
M.D., Johns Hopkins Medical School,
1923, Associate Professor of Internal
Medicine, University of Michigan Med-
ical School, Member of the Michigan
State Medical Society.

■ RHEUMATIC fever is a specific contagious familial disease of childhood characterized usually by joint pains, mitral stenosis, chorea and fibroid nodules. However, the disease may occur insidiously without joint symptoms, chorea, or nodules, and since febrile illnesses with pharyngitis are not uncommon in children the probability of cardiac crippling may remain quite unrecognized.

Chorea in children may occur independently of rheumatic activity, one-half the cases studied by Coburn and Moore⁴ in New York occurring in non-rheumatic subjects. Gerstley and associates⁷ in Chicago, and Jones and Bland⁹ in Boston found that many children with chorea did not have other rheumatic manifestations. Since almost one-half of the cases occurred in non-rheumatic subjects, each case of chorea must be differentiated with respect to possible rheumatic fever. The differential diagnosis will be mainly between encephalitis, hysteria, Huntington's chorea, chorea des dégenère, nervous tics, congenital syphilis, and chorea gravidarum.

Between the ages of five and nine years, the onset of the rheumatic fever may be sudden, with severe pancarditis, or insidious, with fatigue, vague joint pains and mild fever. A constant apical systolic murmur may be the only evidence of damage to the heart since the presystolic murmur of mitral stenosis usually is absent before the tenth year. The child who tires easily, is losing weight, with a poor appetite, pallor and indefinite muscle pains should arouse the suspicion of the physician that he is dealing with the insidious form of rheumatic fever. Polyarthrititis is not as frequent in childhood as in later life, and may be entirely absent. Non-rheumatic "growing pains" of childhood

may be distinguished by the following: they occur at the end of the day and during the night in the muscles of the legs and thighs about the joints rather than in them. There is no heat, swelling or pain on motion.

Incidence

Predominantly a disease of childhood and early adult life, with slightly greater incidence in girls, it ranks first as a cause of death in girls in New York City and is second to accidents among boys.

Its incidence in Michigan is unknown. The disease has been made reportable in the State for the purpose of determining the incidence and to permit more specific preventive measures.

In Northern United States the incidence of rheumatic fever is estimated at between 1 and 5 per cent. Woolf's¹⁶ careful studies in West Virginia indicate a higher percentage (4.4 per cent) than is usually found. Martin¹¹ estimates the national incidence at 800,000 to one million cases per year and an annual mortality of about 40,000. Martin followed 1,378 children for 18 years and found a mortality rate of 28.7 per cent. More than half these died within the first five years of their initial infection. Death occurs more commonly during the second or third attack, usually between five and twelve years of age.

According to Meakins¹² the disease is seven times more common in urban than in rural school populations. He writes that mitral stenosis is twenty times more frequent in Boston than in New Orleans, and fourteen times more frequent than in Dallas. J. T. Clarke³ found no cases of mitral stenosis in thirty-three years in the tropics. In 571,526 out-patients from an estimated population of 33,748,569 he saw 747 cases of joint and other manifestations, with fever, obviously rheumatism, but no observable rheumatic heart disease.

Environment

Sir Leonard Hill⁸ discounts to some extent the effect of climate alone and writes that "the evidence shows that it is conditions produced by dirty, artificially-heated and ill-ventilated houses, and density of population which cause

*This article is submitted for publication at the request of the Subcommittee on Heart and Degenerative Diseases of the Michigan State Medical Society.

rheumatic troubles, the ill-effect of these conditions being intensified by a diet in which protective foods are deficient." In England dampness of houses is considered the most important local environmental predisposing factor.

May Wilson¹⁵ believes also that adverse local or home environmental conditions are extremely important because in New York the disease is so much more common among the lower than the higher economic classes. Swift, Wilson and Todd¹⁴ find the disease about twenty times more common among the working classes than among the rich and agree that overcrowding, bad sanitation, dietetic insufficiency, and dampness are important predisposing factors. There is a marked seasonal variation, the disease being much more common in early spring when upper respiratory infections are prevalent.

Familial Incidence

The familial incidence of rheumatic fever is interesting in that both a tissue susceptibility and a contagious factor may explain the occurrence of the disease in other members of the family in 50-75 per cent of the cases. Kaufmann and Scheerer's¹⁰ contribution on the appearance of the disease in 72 pairs of twins supports the constitutional susceptibility factor, while such cases as Swift's support the purely infectious factor. In Swift's case of a child with repeated attacks, removal of badly diseased tonsils from the mother resulted in complete cessation of recrudescences of rheumatic fever in the child.

Gauld⁶ and associates found in two generations a rheumatic family history 3.7 times as high in 96 rheumatic children as in the control families.

Etiology

Rheumatic fever most clearly is an infection. It has been seen in epidemics, and its clinical features are those of infection. The hemolytic streptococcus is closely concerned as a precipitating agent but it has not been proved the cause of the infection.

The entrance of the infectious agent through the upper respiratory tract seems established. "One must appreciate," as Meakins¹² remarked, "that the whole mucous membrane of the fauces and pharynx is the probable portal of entry." Coburn and Moore⁵ conclude that the "evolution of rheumatic fever consists of three phases:

first, a phase in which there is fever and an infection of the respiratory tract with the hemolytic streptococcus subsiding in a few days; second, an afebrile, symptom-free phase in which the immune response develops in the rheumatic subject with a diminution of serum complement and, finally, the acute attack which is phase three." A month may elapse before the phase three appears.

Tonsillectomy

It has been shown by numerous studies that tonsillectomy does not usually affect favorably the course of rheumatic disease, and may precipitate either a recrudescence, or rarely subacute bacterial endocarditis in a susceptible individual. Recrudescences occur in a high percentage of cases whether or not a tonsillectomy has been done.

In Baltimore, Allan and Baylor² found that in 108 patients subjected to tonsillectomy and adenoidectomy between 1910 and 1924, recrudescence had occurred in 43.5 per cent. Rachel Ash¹³ concluded from a study of 522 children in Philadelphia that tonsillectomy did not prevent recurrences of rheumatic manifestation, nor did the presence or absence of tonsils have any demonstrable influence on the possible cardiac involvement. The infective agent seems to enter the body through the lymphoid tissue of the whole nasopharynx, of which tonsillar tissue is but a part.

Tonsillectomy in the rheumatic child is indicated if there is definite disease of the tonsils, not alone because the child has the rheumatic tendency. If tonsillectomy definitely will improve the health of a child, it will be of value for the rheumatic child. No operative procedures should be carried out during the active phases of rheumatic fever.

As Spaulding¹³ has emphasized, the greatest harm has been done by thinking in terms of "acute" as applied to rheumatic fever. The preventive principles of tuberculosis would have been greatly retarded had we begun with the phrase "acute pulmonary tuberculosis." Preventive efforts have been long delayed by this application of the term to rheumatic fever.

Activity of the Infection

The activity of the rheumatic process may be evaluated by:

The fever, heart rate, and joint pains.

Number and appearance of the leukocytes.

The sedimentation rate.

General appearance of the child.

The presence of anemia, weight changes, and fatigue.

A normal temperature with or without salicylates does not prove inactivity. The diagnosis of active rheumatic endocarditis may be difficult unless all the febrile states of childhood are kept in mind. The over-active heart with tachycardia, at times a gallop rhythm and soft sounds, accentuation of the second pulmonic sound, and a soft systolic murmur should be noted. Enlargement of the heart shadow by x-ray is valuable evidence, both in denoting activity and in following cases.

The constant tendency for recrudescence with further cardiac damage makes prognosis difficult in any case. About 80 per cent of children having rheumatic fever develop rheumatic heart disease. The severity of the joint inflammation is no criterion of possible involvement of the heart, since the latter may occur without joint manifestations. In general, the later in life rheumatism manifests itself the less likelihood there is of rheumatic carditis and recrudescences.

The rheumatic process should be considered active until proved otherwise. Exactly the same attitude should be maintained regarding activity as in tuberculosis in order to err on the side of safety. Prolonged rest in bed, well protected from upper respiratory infection, is as essential as for pulmonary tuberculosis and may prevent permanent disability.

The less common manifestations of rheumatism should be recognized such as mild chorea, erythema multiforme (annulare, marginatum, nodosum), and other toxic manifestations, anemia, epistaxis, sweating and fatigue. The first and often the only early symptom is fatigue.

Early recognition of the disease, that is, at the time of the initial tachycardia and fever, is important in a disease characterized by a prolonged course and frequent cardiac crippling. In

the susceptible person frequent observation for activity should be made.

Anticipation

Several factors of anticipation of the disease or its recrudescence in susceptible persons may be utilized:

(a) Children in Northern urban areas from the low income families contribute the great majority of cases.

(b) The local environment, particularly the factors of overcrowding, dampness, and poor food are contributing factors.

(c) Children of families in which streptococcal infection, tonsillitis and scarlet fever are occurring, and those in which even distant relatives have rheumatic heart disease should be particularly observed.

(d) Hemolytic streptococcal infections in other members of the family may initiate an attack in a susceptible child. The immediate isolation of upper respiratory tract infections in susceptible families is therefore advisable.

Preventive Aspects of Rheumatic Fever

The care of the quiescent rheumatic patient is of special importance and here the principle of the menace of the herd is used.

(a) The disease should be considered contagious.

(b) Preventive measures may take the same form as in tuberculosis.

(c) The rheumatic child is "a crippled child who does not limp." The advantages of special hospitals similar to those now used for tuberculosis should be recognized.

(d) A person who has once had rheumatic fever is always susceptible to subsequent attacks.

(e) The encouragement when feasible of migration of susceptible families to a southern climate, or at least the avoidance of dampness and chilling.

(f) The use of small doses of sulfanilamide or related compounds as a prophylactic during the winter months has been suggested.

(g) These drugs should not be used during an acute phase of the disease.

(h) The person with mitral stenosis must be protected from colds and sore throats in other members of the family, in schoolmates and attendants. The disease is not only initiated by upper respiratory infection in one-half of the

cases, but recrudescence occurs in one-half the cases following a cold or sore throat. *Chilling, psychic trauma, and minor operations may precipitate an attack.* These children should be in bed during the time of any respiratory infection.

(i) Rheumatic children should be guarded with respect to exercise and their activities constantly directed to sedentary interests. Rest periods during the day and warm sleeping rooms should be provided.

(j) The food intake is best managed by insuring adequate vitamins and minerals and the avoidance of overweight and underweight.

(k) The mental hygiene aspects of a child afflicted with rheumatic heart disease deserves special attention because of the possibility of creating additional disability through an inferiority complex. Frank discussion with the parents usually prepares for a satisfactory life adaptation in individual cases.

(l) Allergic children are unusually susceptible to upper respiratory infection. A careful family history, examination of the nasal mucosa, and a determination of eosinophilia in blood and nasal secretions is helpful. If the rheumatic child exhibits nasal or bronchial allergic changes, a thorough study directed toward its control might be of value in limiting the susceptibility to the rheumatic process.

(m) In any family, a member of which has had rheumatic fever, cultures on a blood agar plate of the nasopharynx of all members of the family and other contacts should be carried out during the winter. Protection against the hemolytic streptococcus "carrier" is essential to the prevention of recurrences in children susceptible to rheumatic fever.

The similarity of rheumatic fever to tuberculosis in its familial incidence, its relation to poverty, its tendency to attack the young, its constant recurrences with mental or physical strain, surgical procedures, or exposure to cold, its peculiar immunological reactions, and the standard procedure in treatment should be of value in a better appreciation of the preventive aspects of the disease. Finally, rheumatic fever should be more frequently suspected by the physician in dealing with any indeterminate infection of childhood.

MARCH, 1941

References

1. Allan, W. B., and Baylor, J. W.: Influence of tonsillectomy upon the course of rheumatic fever and rheumatic heart disease. Study of 100 cases. *Bull. Johns Hopkins Hospital*, 63:111-123, (Aug.) 1938.
2. Ash, R.: Influence of tonsillectomy on rheumatic infection. *Am. Jour. Dis. Child.*, 55:63-78, (Jan.) 1938.
3. Clarke, J. T.: The geographical distribution of rheumatic fever. *Jour. Trop. Med. & Hyg.*, 23:249-258, (Sept. 1), 1930.
4. Coburn, A. F., and Moore, L. V.: Independence of chorea and rheumatic activity. *Am. Jour. Med. Sci.*, 193:1-4, (Jan.) 1937.
5. Coburn, A. F., and Moore, L. V.: Prophylactic use of sulfanilamide in streptococcal respiratory infections with especial reference to rheumatic fever. *Jour. Clin. Investigation*, 18:147-155, (Jan.) 1939.
6. Gauld, R. L., Ciocco, A., and Read, F. E. M.: Further observations on the occurrence of rheumatic manifestations in families of rheumatic patients. *Jour. Clin. Investigation*, 18:213-217, (March) 1939.
7. Gerstley, J. R., Wile, S. A., Falstein, E. I., and Gayle, M.: Chorea: is it a manifestation of rheumatic fever? *Jour. Pediat.*, 6:42-50, (Jan.) 1935.
8. Hill, L.: Rheumatism and climate. *Brit. Med. Jour.*, 2:276-278, (Aug. 5) 1939.
9. Jones, T. D., and Bland, E. F.: Clinical Significance of chorea as a manifestation of rheumatic fever. *Jour. A.M.A.*, 105:571-577, (Aug. 24) 1935.
10. Kaufmann, O., and Scheerer, E.: Über die Erblichkeit des akuten Gelenkrheumatismus. (Untersuchungen und 72 Zwillingspaaren). *Ztschr. f. Mensch. Vererb. u. Konstitutionslehre*, 21:687-696, 1938.
11. Martin, A. T.: Clinical aspects of rheumatic fever in children. *Bull. N. Y. Acad. Med.*, 16:475-482, (July 19) 1940.
12. Meakins, J. C.: Rheumatic fever. *Canad. Med. Assn. Jour.*, 39:426-429, (Nov.) 1938.
13. Spaulding, E. G.: Personal communication.
14. Swift, H. F., Wilson, M. G., and Todd, E. W.: Skin reactions of patients with rheumatic fever to toxic filtrates of streptococcus. *Am. Jour. Dis. Child.*, 37:98-111, (Jan.) 1929.
15. Wilson, M. G.: Rheumatic fever; childhood rheumatism. *Preventive Medicine*, 8:7-20, (April) 1938.
16. Woofter, A. C.: Preliminary survey on the relation of physical defects to scholastic standing. *W. Virginia Med. Jour.*, 35:413-415, (Sept.) 1939.

General References

- Coburn, A. F.: *The Factor of Infection in the Rheumatic State*. Baltimore: Williams and Wilkins, 1931.
Wilson, M. G.: *Rheumatic Fever*. New York: The Commonwealth Fund, 1940.

MICHIGAN'S SANATORIA

Citizens of Michigan may well be proud of their tuberculosis record—for this state is now among the leaders in case-finding, treatment and hospitalization for the tuberculous.

Individual effort and organized campaigns have helped to reduce the state tuberculosis death rate almost 60% since the beginning of the century. For 34 years the Michigan Tuberculosis Association has been carrying on educational and actual case-finding programs. At the present time the Michigan Sanatorium Association is voluntarily conducting a survey in order to improve the already high standards of tuberculosis treatment in state approved sanatoriums. Through effective laws, the legislature has been able to make hospitalization and treatment available to rich and poor alike.

Figuratively, Michigan is now on the last lap. Actually, there is much to be done. Last year 6,119 active cases of tuberculosis were reported in the state, and it is estimated that there were around 12,000 unknown cases. The goal of tuberculosis care is "hospitalization and treatment for every known case."—*Health*, Jan.-Feb., 1941.

Clinico-Pathological Conference

Detroit Receiving Hospital

January 16, 1941

P. T., a colored man, thirty-eight years of age, was admitted to the hospital on July 19, complaining of weakness and cough of three weeks' duration.

Present Illness.—This patient had had a number of previous admissions to Receiving Hospital for the treatment of his diabetes which was known to have existed for five years. He had not followed his diet and insulin requirements consistently partly because of financial difficulties. His last previous admission was in May, 1940, when he had experienced increased thirst, polyuria, and loss of weight apparently because he had not been able to follow his diet. He was discharged from the hospital on a daily dosage of 40 units of protamine insulin and a diet containing 150 grams of carbohydrate, 75 grams of protein and 120 grams of fat. He left without the sanction of his doctor and the diabetes was not completely controlled. He continued to feel poorly and was unable to work. About three weeks before his present admission he began to notice marked fatigue on any exertion, had drenching night sweats and felt feverish during the day. A week later a cough which he had paid no attention to previously become more marked and productive of moderate amounts of greenish mucopurulent sputum. He did not complain of polyuria, polyphagia, polydipsia, or drowsiness.

Past History.—General health good. No serious illnesses. No history of venereal disease. No operations. Blood pressure of 190/130 recorded on admission in May, 1940. Review of history by systems incomplete.

Familial History, Marital History and Occupational History: Not remarkable.

Physical Examination.—Revealed a slender, emaciated, acutely ill, colored male. Mental state clear. Temperature 102°, pulse 120, respirations 25. Eyes: ocular pupils equal and regular reacting promptly to light and upon accommodation. Ocular fundi showed moderate narrowing and sclerosis of the retinal arterioles. No hemorrhages or exudates. Ears, nose and throat: not remarkable. Neck: no cervical rigidity. No enlargement of thyroid gland. No cervical or other lymphadenopathy. Lungs: dullness to percussion over the right apex anteriorly and posteriorly. Bronchial breathing, increased tactile fremitus, bronchophony and numerous medium crepitant râles over this area. Scattered crepitant râles over remainder of right lung field and at left base. Heart: apical impulse visible and palpable in fifth intercostal space in the mid-clavicular line. Heart sounds of good quality without audible murmurs. Blood pressure 140/90. Abdomen: liver, spleen and kidneys not palpable. No masses, tenderness or rigidity. Extremities: radial arteries slightly

thickened. Tendon reflexes normal. Rectal and genitalia: negative.

Laboratory Tests.—See table. Other Laboratory Findings: urinalysis: specific gravity quantity not sufficient, sugar 0, albumin trace; sediment—one leukocyte per h.p.f. Blood: Hemoglobin 9.5 grams; erythrocytes 3.46 millions; leukocytes 6,600; neutrophils 72 per cent, filamented 42 per cent, non-filamented 30 per cent, eosinophiles 1 per cent, lymphocytes 26 per cent, mononuclears 1 per cent. Kline test negative. Roentgenograms to be reported.

Clinical Course.—Patient's temperature remained consistently elevated, rising gradually to a peak of 105°. The pulse rate ranged between 110 and 130. Respirations gradually rose from 25 to 35. On the morning of July 20, patient had what was apparently a hypoglycemic reaction for which 50 c.c. of 50 per cent glucose were given intravenously. Another similar attack occurred at 8:00 p. m. on July 20. At 2:00 a. m. on July 21 patient was seen in a tonic convulsion and unconscious mental state which responded within four minutes to the intravenous injection of 40 c.c. of 50 per cent glucose. Again at 4:30 a. m. he relapsed into a stuporous condition which again responded quickly to 50 per cent glucose. Because of this recurrence he was given 1,000 c.c. of 10 per cent glucose intravenously slowly. At 9:00 a. m. and 11:00 a. m. less severe hypoglycemic symptoms occurred which were controlled by oral administration of coma feedings. At 3:30 p. m., the patient had an attack consisting of clonic convulsion of all extremities with twitchings of the facial muscles, accompanied by lack of response to external stimuli, groaning and turning of the head to the left. The skin was described as hot and moist. He remained unconscious for about thirty minutes following which he gradually regained consciousness. Similar unconscious episodes occurred at 6:45 p. m. and again at 2:00 a. m. on July 22. During the afternoon on July 22, another similar episode occurred the patient responding again to intravenous glucose. At 6:00 p. m. while the patient was talking to his wife he had a sudden convulsion and expired in a few minutes.

Discussion

DR. RICHARD MCKEAN: This patient had a number of previous admissions to this hospital, and there is no question that he had true diabetes mellitus. We have all of the evidence necessary to establish an undoubted diagnosis of that particular condition. The story of his present illness indicates that he has developed a complicating disease, but does not give any definite information concerning its nature. Cough is a prominent feature of his illness, but the type of sputum is not characteristic enough to be of any help in deciding what the source of this is. Likewise, it was apparently impossible to get an accurate history of

JOUR. M.S.M.S.

CLINICO-PATHOLOGICAL CONFERENCE

Date	Time	Insulin	Blood Sugar	CO ₂	Urine Sugar	Diacetic Acetone	Feedings
7/19/40	4:30 p.m. 9:00 p.m.				blue blue		*coma feeding coma feeding
7/20/40	7:00 a.m. 7:30 a.m. 9:30 a.m. 11:30 a.m. 4:30 p.m. 7:00 p.m. 8:00 p.m.	U 40 (prot.)	34	58 vol. %	green green green green	negative	50 c.c. 50% glu. IV *diet diet 50 c.c. 50% glu. IV coma feeding
7/21/40	2:30 a.m. 4:30 a.m. 7:30 a.m. 9:00 a.m. 11:00 a.m. 11:30 a.m. 3:30 p.m. 4:00 p.m. 4:30 p.m. 7:00 p.m. 8:30 p.m. 2:00 a.m. 4:00 a.m. 6:00 a.m.	U xv (reg.)	20 66.2 26	52 vol. %	 yellow yellow unable to obtain spec. yellow green	 negative	40 c.c. 50% glu. IV } 50 c.c. 50% glu. IV } 100 c.c. 10% glu. IV diet coma feeding coma feeding diet 50 c.c. 50% glu. IV coma feeding diet } 100 c.c. 50% glu. IV } coma feeding coma feeding 100 c.c. 50% glu. IV each coma feeding each coma feeding
7/22/40	7:30 a.m. 8:30 a.m. 11:30 a.m. 3:30 p.m. 4:00 p.m. 4:30 p.m. 6:00 p.m.	 Expired	18.5		green orange unable to obtain spec.	negative	coma feeding diet 50 c.c. 50% glu. IV } 50 c.c. 50% glu. IV } 1000 c.c. 10% glu. IV

the diet which he had been following, or to know whether he had been taking insulin regularly. This leaves us in the dark as far as being able to estimate how well or how poorly his diabetes may have been controlled. However, judging from the lack of polyuria, polyphagia, polydipsia and drowsiness it was not a diabetic acidotic state which caused his entry on this admission.

The examination of the ocular fundi bear out the previous finding of hypertensive vascular disease. The chest findings indicate a consolidation of the left upper lobe which could be either a tuberculous process, possibly with cavitation, or an apical lobar pneumonia. The considerable drop in blood pressure from a previous reading of 190/130 to 140/90 may be merely secondary to his general state of malnutrition but may, on the other hand speak for more than meets the eye. Aside from the laboratory work pertaining to blood sugar and urine, the most significant finding is the absence of leucocytosis. Al-

though we have had a number of cases of pneumococcic pneumonia with perfectly normal leucocyte counts, and some with frank leucopenia, such a definite lobar involvement as was found in this case is usually accompanied by leukocytosis. Therefore, this is a point in favor of pulmonary tuberculosis, and combined with a history of a chronic cough and night sweats, in a colored patient with diabetes makes this the most probable cause of his pulmonary disease.

The low blood sugar levels, the absence of appreciable glycosuria in spite of the small amount of insulin and the large amounts of dextrose which were given intravenously and orally to this patient represent just the opposite effects from what we would expect in a moderately severe diabetic. The explanation of this paradox is the chief problem in this case. I have never seen this occur in the course of combined diabetes and pulmonary tuberculosis, although we have followed some 220 cases of this type at Herman

Kiefer Hospital during the past ten years. Usually their diabetes becomes more severe because of the accompanying infection. Occasionally, as in any diabetic, failure to eat while continuing to take insulin will result in hypoglycemic reactions. However, this man, who in thirty-six hours had no insulin, kept on having steadily decreasing blood sugar levels down to 18.5 mg. per cent.

What are some of the causes of hypoglycemia which we might consider? First, there is true hyperinsulinism, which can be caused either by overdosage of parenterally injected insulin, or by diffuse hyperplasia, an adenoma, or a carcinoma of the islet tissue of the pancreas. These pathologic states represent islet tissue and function gone wild, producing more insulin than is needed for the normal metabolic processes. This, to my knowledge, has never occurred in patients who were previously diabetic, presumably with hypofunctioning islet tissue, and therefore is unlikely in this case. All other types of hypoglycemia are not due to hyperinsulinism, unless one assumes that hyperfunction may occur in the absence of pathologic changes in the pancreas. Hepatic disease of various types including toxic cirrhosis, diffuse carcinomatous involvement, the so-called fatty metamorphosis of the liver, or in fact, any disease which affects widely the liver parenchyma may be accompanied by hypoglycemia. The explanation of this type of hypoglycemia is to be found in the disturbance of a normal physiologic mechanism through which the blood sugar is controlled. Normally, when there is an increased demand for glucose and a tendency for the blood sugar to fall, the conversion into glucose of glycogen stored in the liver is accelerated. This acceleration is caused by a reflex stimulation of the splanchnic nerves which act on the liver directly and also indirectly by the production of increased amounts of adrenalin. If the store of glycogen in the liver is depleted by disease this mechanism cannot operate and hypoglycemia may result. A valuable aid in excluding this type of hypoglycemia is the subcutaneous injection of adrenalin. This will cause a prompt rise in blood sugar if the liver stores of glycogen are normal. In this case there is no evidence of hepatic disease—jaundice is absent, and the liver is not demonstrably changed in size. There was apparently not sufficient opportunity to study liver function. Dr. Max Pinner, formerly the Path-

ologist at Herman Kiefer Hospital, has frequently found fatty livers in patients dying from tuberculosis. A similar type of involvement is occasionally seen in diabetes, especially when it is not well controlled. Such a change may possibly be present in this case. Diffuse carcinomatous involvement could be present without jaundice, but such a diagnosis in a patient of this age without other evidence of carcinoma would be sheer speculation. Hemochromatosis should be mentioned although the lack of hepatic enlargement as well as the absence of abnormal pigmentation of the skin tend to exclude this disease. A more likely condition would be a chronic hepatitis or cirrhosis.

Another cause of hypoglycemia is the absence or diminution of the internal secretion of the anterior pituitary, the thyroid, or the cortex of the adrenal glands. These products normally oppose the action of insulin and their lack may lead to hypoglycemia even when the insulin production is normal. Basophilic adenomas of the pituitary are often accompanied by hypertension, hyperglycemia and glycosuria, the two latter being due to an excess of the diabetogenic hormone. The exact mechanism of the effect of this hormone is not known, although there is good evidence that it may exert its effect through the adrenal cortex. It is possible to hypothecate the development of hypopituitarism later in the course of this disease due to destruction of normal pituitary substance and thus to explain this patient's previous hypertension and diabetes with the later fall in blood pressure and the appearance of hypoglycemia. However, he did not show at any time the characteristic obesity of patients having basophilic pituitary adenomas, his diabetes was more severe than that usually seen in this condition and a subsequent hypopituitarism, while it occurs commonly in other pituitary tumors, must be either non-existent or very unusual in Cushing's disease because of the usual small size of basophilic adenomas. Therefore, if a pituitary lesion is present, it is either one of the other types of pituitary tumors, or destruction of the pituitary from hemorrhage or unexplained atrophy. I have never seen hypothyroidism produce hypoglycemia of this severity. Furthermore, there was no evidence of myxedema. This patient might be considered to be a candidate for Addison's disease. The chief thing against adrenal insufficiency as a factor in his

hypoglycemia is the blood pressure reading of 140/90.

Certain lesions of the central nervous system may show glycosuria. Although this man had definite evidence of central nervous system involvement as indicated by convulsive seizures, these were undoubtedly caused by the hypoglycemia rather than being the cause of his disturbed carbohydrate metabolism. Finally, the most common cause of hypoglycemia is the so-called functional hypoglycemia. Its etiology is unknown. It never causes as low blood sugar levels as were present in this case. Dr. Conn of Ann Arbor has described beautifully these various types and their treatment in a recent volume of the *Journal of the American Medical Association*.

In summary, the following diagnosis should be made in this case:

1. Diabetes mellitus.
2. Pulmonary tuberculosis, probably with cavitation.
3. Hypertensive vascular disease.
4. Cerebral damage secondary to hypoglycemia.
5. Hypoglycemia due (in order of probability) to (a) diffuse hepatic disease, cirrhosis, or fatty metamorphosis; (b) pituitary insufficiency, from pituitary tumor, or atrophy; (c) Addison's disease.

DR. ROBERT J. SCHNECK: Doctor McKean has given a very complete discussion of this case, and I have very little to add. I agree with his opinion that pulmonary tuberculosis is the best explanation of the findings in the chest. The suddenness of the onset of the hypoglycemia as well as the absence of findings implicating the liver or the adrenal glands in my opinion favor a destructive lesion of the pituitary. A tuberculoma of the brain associated with the pulmonary tuberculosis is a possible cause. A metastatic abscess of the brain secondary to a pulmonary abscess is a possibility which also should be mentioned.

DR. A. HAZEN PRICE: This series of events leading to this patient's death might be reconstructed as follows: he originally had diabetes and then developed a respiratory infection. The latter was probably tuberculous in nature, but may have been entirely non-tuberculous, or tu-

berculosis with a superimposed acute pulmonary infection. Also, I believe he probably had some type of chronic hepatic disease—chronic hepatitis, a fatty liver, or, less likely, tuberculosis of the liver. This may not have been very extensive, and the respiratory infection may have acted to change the state of the liver from one of low reserve to one with some degree of hepatic insufficiency, leading to hypoglycemia. In this sense, the respiratory infection may have been the last "straw which broke the camel's back." The lack of evidences of hepatic disease is somewhat against this course of events. Pituitary or adrenal insufficiency may have been present. However, I believe the former explanation best fits this case.

DR. MARTIN SCHAEFFER: I agree with Doctor McKean's diagnoses. Amyloid disease of the liver should be mentioned because of the probability that he had pulmonary tuberculosis. We have a patient suffering from chronic pancreatitis who developed rather severe hypoglycemia each time he experienced a flare-up of this condition.

Roentgenologic Findings

Roentgenogram of the chest taken July 20, 1940 showed consolidation throughout the entire right upper lobe, most of the right lower and the mid-portion of the left lung field. The remainder of the lung fields were clear. The costophrenic sinuses were clear.

The appearance was that of a rapidly advancing bilateral tuberculosis.

Pathologic Findings

Final Diagnosis.—(1) Tuberculous pneumonia, right upper lobe; (2) pancreatic fibrosis secondary to calculous obstruction of pancreatic duct.

The pituitary, liver, thyroid and adrenals were normal. The right lung weighed 1,240 grams and the left lung 400 grams. The right upper lobe was completely consolidated. The microscopic picture was that of acute tuberculosis with coalescence of tubercles, extensive necrosis and leukocytic exudation.

The pancreas was uniformly small, extremely firm and white and measured 2 cm. in diameter. The duct system was dilated throughout and contained innumerable calculi, some very small. One large calculus obstructed the duct of Wirsung at its distal extremity. The pancreas was carefully searched for a neoplasm and none found. Microscopic examination of the pancreas revealed extensive fibrosis with fibrous replacement of practically all of the acinar tissue as well as duct dilatation. The islets of Langerhans were conspicuously well preserved, many hypertrophied, some being two and three times the size of normal islets. It was impossible to prove that there was actual



Fig. 1. Photomicrograph of pancreas (X 300). Duct dilatation and almost complete fibrous replacement of lobular tissue.

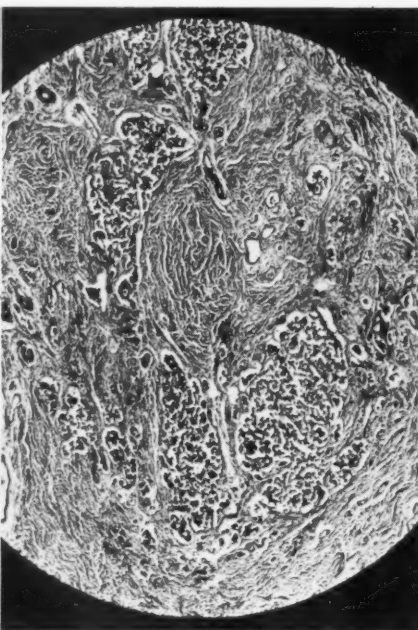


Fig. 2. Photomicrograph of pancreas (X 300). Islet hypertrophy. Apparent increase in islet tissue.



Fig. 3. Photomicrograph of lung (X 300). Pneumonic consolidation due to acute tuberculous infection. Characterized by exudation and necrosis.

hyperplasia of islet tissue because of the disturbance in normal architecture in the pancreas, but the hypertrophy of many of the islets would indicate an actual increase in the total number of islet cells. It seems fairly reasonable to explain this patient's hypoglycemia on the basis of hyperinsulinism.

DR. PAUL H. NOTH: The pathologic studies in this case, as in a definite proportion of cases of hypoglycemia which have been reported, failed to disclose a definite cause. It did, however, reveal the clinically unsuspected and extremely interesting findings of chronic pancreatitis and pancreatic lithiasis, and it also practically excluded a number of the conditions mentioned in the clinical discussion which was, in the absence of diagnostic clinical evidence, necessarily speculative in nature. The relation of pancreatic lithiasis to diabetes is probably based upon the presence of chronic pancreatitis in this condition. A review of the literature in 1928 resulted in the discovery of 104 cases with pancreatic calculi. Of seventy cases with adequate clinical data twenty-four

showed diabetes or glycosuria. Chronic pancreatitis without demonstrable calculi is also not infrequently accompanied by glycosuria. The observation of the development of diabetes following acute pancreatitis is quite infrequent. Warfield, in 1927, reported seven such cases which he found in the literature and added four of his own. This was a permanent diabetes in the five cases in which a subsequent history was obtained. In this case, hepatic, pituitary and adrenal lesions were absent. The marked destruction of the acinar tissue recalls the similar case reported by Barron in 1920, which led Banting to ligate the pancreatic duct in animals thereby producing an atrophy of the acinar and duct tissue and discovering another link in the chain of evidence indicating that the islet tissue is the source of insulin. There is some inconclusive evidence that this condition of the pancreas in animals may lead to hyperplasia of the islet tissue and cause hyperinsulinism. Such a mechanism may have been present in this case.

VITAMINS PREFERABLE IN NATURAL FOODS

In the treatment of deficiency states the most important factor is a well-balanced, adequate diet, which can be supplemented when necessary by preparations containing vitamins and minerals in concentrated form. Too much emphasis cannot be placed on giving these substances in the form of natural foods. Minot says: "Today's knowledge does not permit us to prescribe with precision the amounts of the thirty-six or more substances which are required for correct nutrition. To detect deficiencies and remedy them piecemeal by supplements of manufactured concentrates will not at present solve the problem. Experience tells us that a mixed diet of natural foodstuffs, one especially rich in milk, green vegetables, fruit, butter, eggs, and food with ample protein of good biologic value, gives the best results."

—*Citrus Fruits and Health.*



EXPERIMENTAL PROCEDURES



Pituitrin in Postpartum Hemorrhage

Transabdominal Intra-uterine Injection

By Donald F. Hoyt, M.D.
Pontiac, Michigan

D. F. Hoyt, M.D.

M.D., University of Michigan, 1925. Member of the Staff of Pontiac General Hospital. Courtesy member of St. Joseph's Hospital. Chairman of Record Committee and member of Advisory Committee of Surgical Section at Pontiac General Hospital. Member of the Michigan State Medical Society.

THE surgeon performing a Cesarean Section commonly injects pituitrin directly into the wall of the uterus after the baby and placenta have been delivered. He does this to produce rapid, complete hemostasis by uterine contraction. An opposite picture is presented to the obstetrician once in every 150 labors immediately postpartum—uterine atony. Intractable hemorrhage results. Why does the obstetrician fail to practice what the surgeon finds so successful?

Method of Injection

Recently, while attending a case of postpartum hemorrhage due to uterine atony, routine administration of oxytocics failed and the idea above cited occurred. One hand was placed behind the uterus, pushing the fundus sharply up against the anterior abdominal wall. Any trapped intestinal loop would thus be thrust aside. The bladder was empty or a catheter would have been inserted to outline its position for safety. By means of a No. 22 spinal puncture needle 1 c.c. of pitocin was injected in the uterine muscle, trans-abdominally. The result was immediate and spectacular. The uterus became exceedingly firm and contracted. The patient began to groan with the pain of contraction. Inspections at fifteen-minute intervals revealed slightly lessened but very effectual constant contraction. In two hours there had been no additional bleeding. This treatment was pre-

ceded by one transfusion and followed by two. Trendelenburg position and external heat were also employed. The patient was discharged in four days via ambulance to a convalescent hospital. Of some interest is the fact that she entered the hospital with a hemoglobin of 36 per cent, had postpartum hemorrhage over a period of seven hours before the treatment just described was employed, had transfusions totaling 1,100 c.c., and was discharged with a hemoglobin of 42 per cent.

Usual Treatment

In presenting this method of treatment it is not intended to find a substitute for good conservative methods, but rather to replace some of the more drastic ones hitherto employed in intractable cases. The therapy of postpartum hemorrhage may be discussed under four headings:

1. General or supportive measures such as transfusions, infusions, Trendelenburg position, heat and uterine massage.

2. Conservative active measures now recognized as being safe and necessary. In the past fifteen years universal agreement has been reached in regard to entering the uterus manually to inspect or remove retained placental tissue. This is a procedure to be carried out early in postpartum hemorrhage. In the past five years the efficacy of ergot preparations intravenously has been repeatedly demonstrated. Many methods of bimanual compression of the uterus have been offered. They merit attention because they are harmless.

3. However, even with those aids, uterine atony is uncontrolled in one out of every 150 labors. For this group of cases hot and cold intra-uterine douches, even cracked ice, and intra-uterine packs have been used. Discussion is still rife as to their relative merits, and there is no agreement as to their efficacy or safety. Here it is where trans-abdominal intra-uterine injection of pituitrin should be given its chance. Of the six writers mentioning this method none

MARCH, 1941

have reported failure in obtaining vigorous uterine contraction.

4. Where all these methods fail to control bleeding the sinister names of Momburg's tube, Sehrt's compressor, Henckel's clamp, and hysterectomy appear. They are usually pre-mortem measures.

Intra-uterine Injection

Dr. F. Carreras of Barcelona in 1928 was the first to mention intra-uterine injection in postpartum hemorrhage. He told of Dr. Esquirel having discovered it in Buenos Aires. Torrents in 1930, also of Barcelona, reported seven cases in which he used this treatment, six recovering, one dying of "bulbar embolism." Torrents credited Dr. Esquirel. A minor reference in 1933 is the only allusion to it in the medical literature of this continent. The author J. E. Green apparently had not heard of its use before. Rawson, reporting a case in 1935, obviously had not heard nor read of it. Ravina, and especially Moir, speak most highly of their personal results with this method. Moir, by means of a movie camera and a device strapped to the abdominal wall, showed the speed of action of oxytocic drugs administered by various routes.

Route	Elapsed time before effect
1. Orally	5 to 10 minutes
2. Intramuscularly	3½ minutes
3. Rectally	3 to 10 minutes
4. Intravenously	45 seconds
5. Intra-uterine	15 seconds

Although speed is important, the vital point is that all the drug is introduced directly into the incompetent organ. Pointedly, at least in the atonic uterine states, these drugs have a much more decisive action when injected locally than when introduced in any other manner.

Summary

Recent years have witnessed important advances in the treatment of immediate postpartum hemorrhage. Uterine atony still persists in one out of 150 labors. Trans-abdominal, intra-uterine injection of pituitrin is advanced as being the method of choice in treating these cases. Forty-two references were reviewed. Four, all European, were solely concerned with this method. Only two others mentioned it, one being in the American Medical Literature.

References

1. Buxbaum, H., and Udesky, I. C.: Postpartum hemorrhage in outpatient obstetrics. *Illinois Med. Jour.*, 70:428-431, (Nov.) 1936.
2. Carreras, F.: An article describing first use of trans-abdominal intra-uterine pituitrin. *Revista Medica de Barcelona*, (Aug.) 1928.
3. Corbet, R. M.: Postpartum hemorrhage. *Brit. Med. Jour.*, 2:438-441, (Aug. 26) 1939.
4. Davin, E. J., and Morris, T. N.: The intravenous use of basergin in the third stage of labor. *Medical Annals Dist. Columbia*, 1-7, (Jan. 9) 1940.
5. Goodman, S. J.: Treatment. *Ohio State Med. Jour.*, 30: 98-99, (Feb.) 1934.
6. Green, J. E.: Postpartum hemorrhage treated in home by general practitioner. *South. Med. Jour.*, 26:363-366, (April) 1933.
7. Kitchen, D. K.: Management of hemorrhage. *Tri-State Med. Jour.*, 8:1563-1565, (Dec.) 1935.
8. Kitchen, D. K.: Postpartum atony of uterus. *Jour. Arkansas Med. Soc.*, 33:53-55, (Aug.) 1936.
9. Laird, T.: Control of postpartum hemorrhage. *Lancet*, 2:998, (Oct. 29) 1938.
10. Moir, C.: Effective methods of using oxytocic drugs in postpartum hemorrhage. *Proc. Roy. Soc. Med.*, 32:928-929, (June) 1939.
11. Rawson, W. F.: Intra-uterine pituitary extract in postpartum hemorrhage. *Brit. Med. Jour.*, 1:1317, (June 29) 1935.
12. Reich, A. M.: Critical analysis of blood loss following delivery, with special reference to value of ergotrate (ergonovine malleate). *Am. Jour. Obst. and Gynec.*, 37:224-233, (Feb.) 1939.
13. Ravina, J.: Intra-uterine injection of posterior pituitary extract through abdominal wall in therapy of hemorrhage in third stage. *Medicine*, 20:309-314, (April) 1939.
14. Smith, W. S.: Incidence (with Dickenson-Pomeroy third stage technic). *New York State Jour. Med.*, 31:141-149, (Feb. 1) 1931.
15. Torrents, M. de los S. Salarich: Trans-abdominal intra-uterine injection of pituitrin in the treatment of postpartum hemorrhage due to uterine atony. *Ars Medica, Barcelona*, (May) 1930.

VDI AN AID TO THE PRIVATE PRACTITIONER

Increasing demands on private physicians occasioned by the national defense program, accents the need for reliable, current and usable information regarding venereal disease.

Venereal Disease Information presents a monthly digest of the important papers on diagnosis, treatment, pathology, laboratory research, and public health from the entire world. In addition, it publishes important special papers and reports by leading scientists. It is designed to keep both the specialist and the general practitioner informed of developments in clinical management and public health control of syphilis, gonorrhea, and the venereal diseases.

This medical journal of venereal disease has been highly recommended by leaders in all fields of public health. In a rapidly developing and changing field of medical science, the physician interested in venereal disease control from the standpoint of differential diagnosis and treatment will find VDI an important aid.

Venereal Disease Information is published monthly by the U. S. Public Health Service. Today it ranks as the Government's "best seller," with the highest paid circulation of any Federal publication. It is available at 50c per year to all physicians.

All orders should be directed to the Superintendent of documents, Government Printing Office, Washington, D. C. Subscription fee, 50c per year, in check or money order, *not stamps*.

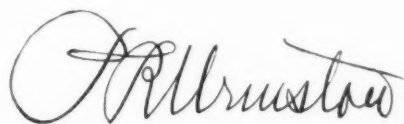
Your Responsibility to Your Legislator

Michigan's Legislature of 132 men is in session at Lansing. These Senators and Representatives come from every county and district in the state. They will make laws of direct interest to every doctor of medicine, some touching intimately his very practice of the healing art.

Already twenty-odd bills affecting physicians in their professional practice have been introduced into the Legislature. More will follow. Some of these proposals are definitely dangerous. They may receive favorable consideration unless the medical profession is awake and articulate!

Legislative Bulletins, to keep county society officers and other key men informed, are mailed weekly by the State Society. The responsibility for referring this important information to the legislators must fall on the family physician and medical friends of the individual Senator or Representative. No one stationed in Lansing can do this job, or do it as effectively. It's the home town voter who gets the ear of his legislator.

Keep up weekly contacts with your legislator-friends. Follow through on recommendations from your State Society's Legislative Committee, for the protection of Michigan's public health and the maintenance of the enviable high standard of medical practice in this state.



President, Michigan State Medical Society.



President's



Page





EDITORIAL

**REPORT RHEUMATIC FEVER**

■ THE present regulations of the Michigan State Health Department require that all cases of rheumatic fever shall be reported. While there are many men who have done special work in the "killer of children" and believe it to be a contagious disease, the question is still debatable. However, the conscientious cooperation of physicians in reporting all of these cases will give much added light to this question, particularly at the present time when we are always interested in medical defense. It is common knowledge that heart disease was the leading disability of Michigan men selected for military service in the First World War, and the largest number of these dated back to rheumatic fever.

At the request of the subcommittee on Heart and Degenerative Diseases of the Michigan State Medical Society, Herman H. Riecker, M.D., of Ann Arbor has written a short article on "The Preventive Aspects of Rheumatic Fever" which will be found on page 208. If every physician knew and made use of the knowledge contained in this article a great many of the deaths and disabilities could be prevented.

Doctor Riecker believes that rheumatic fever and hemolytic strep infections are more of a menace now than tuberculosis and since the diseases have similar social and medical implications he would like to see plans made to use any vacated space in these hospitals for the care of indigent rheumatic children. He says that recent reports indicate that a great deal more can be done by isolation of active cases in restoring health than was formerly thought possible.

Your first step in aiding in the prevention of rheumatic fever is to report every case.

GENERAL PRACTITIONER

■ IN AN editorial in THE JOURNAL for September, 1940, reference was made to the ideology of certain groups of specialists in which the general practitioner was viewed as an agent rather than employer of the specialist.

The report of the Graduate Commission which initiated that editorial has also stimulated quite general comment as to means of protecting the

man in the field from this short-sighted reversed domination. Some of the "throw-away" type of journals have made use of the aroused interest to attack the set-up of the American Medical Association, pointing out the predominance of specialists in the controlling positions of the national organization. It is hard to conceive, even if this were true, that these men have other than the best interests of the medical profession at heart in their deliberations and decisions. Nevertheless, it is easy to lose sight of the general practitioner's problems. They often seem trivial to those whose view-points must include the broad picture of medicine as a whole. Just as one or two pin holes do not destroy the beauty of a great picture, enough pin pricks do irreparable damage and something valuable is lost forever. Therefore, it would seem worthwhile to repair the pricks in the morale of the profession as well as to prevent further irritating practices before a rift may be caused in the unified profession.

It seems to be a challenge to the officers of the A.M.A. and the delegates thereto. One possible remedy might be the inclusion of a practicing general practitioner on each of the specialist boards. There are many of these men, the type of physician who has a broad view-point of medicine as well as a personal knowledge of the practitioner's problems. Another remedy which has been frequently mentioned is the establishment of a general practice board. This may have merits though its function seems rather obscure. Possibly this board, acting as a liaison group between the profession in general and the specialists, would render yeoman service. The mechanism is not of serious consequence. The result must be accomplished; that is, the family physician must be preserved if the private practice of medicine is to be continued; to preserve the family physician he must be encouraged in the *general* practice of medicine. The specialist must be his advisor and councilor; a specialized instrument to be used for the special case by the general practitioner who should be educated as to how, and when, and where to use this instrument.

THE MEDICAL PROFESSION AND SELECTIVE SERVICE

As Michigan physicians progress in the Selective Service examinations, some interesting facts about venereal disease are already becoming apparent. The incidence of syphilis among registrants examined so far is two per cent. Twenty-six thousand Kahn specimens have been run at the State Health Department Bureau of Laboratories, and 535 positive specimens have been reported. We anticipate that this figure of two per cent may actually decrease a little as time goes on.

The incidence of gonorrheal infection has been surprisingly small. We have found among colored registrants, however, that about 80 per cent of them give a history of having had gonorrhea.

The part that the medical profession of Michigan is playing in Selective Service is becoming increasingly important as the number of physicians who have accepted appointments with the Selective Service increases. On February 20 there were 890 doctors assigned to Local Boards as examining physicians, and 289 serving as members of Medical Advisory Boards. The appointment of at least 150 other physicians is being arranged in Washington at the present time. Recently a field representative from National Selective Service Headquarters at Washington visited the State and very highly praised the medical men of Michigan for the part they are playing in National Defense through the Selective Service System.

The first call for servicemen in November resulted in the rejection of 19.2 per cent at the induction centers because of physical reasons. During January the rejections dropped four per cent at the induction centers, and the figures are not entirely complete as *THE JOURNAL* goes to press. The leading major cause for rejection still remains *dental* deficiencies; and the second is faulty vision. More complete figures will be released as soon as the second call for men is completed.

There is considerable agitation and anxiety over the question of deferment of medical and dental students. We have had no further information from Washington that would change the

original status of the regulations as issued last September. However, experience has shown us that few of these men will be called for service at one time, and that the Local Boards are inclined to delay the call of junior and senior medical students until they have completed the first year of internship and qualified for their license to practice medicine. Medical students are granted deferment by the law until the first of July, 1941. Beyond that time they must individually request deferment on an occupational basis in Class II as being engaged in an occupation essential to National Defense. At the present time there is little likelihood that the supply of either interns for the hospitals of Michigan or students for the medical schools will be seriously interrupted.

LT. COL. HAROLD A. FURLONG, M.D.

State Medical Officer, Mich. Selective Service.

Cook County Graduate School of Medicine (In Affiliation with Cook County Hospital)

Incorporated not for profit

ANNOUNCES CONTINUOUS COURSES

SURGERY—Two Weeks Intensive Course in Surgical Technique with practice on living tissue, starting every two weeks. General Courses One, Two, Three and Six Months; Clinical Courses; Special Courses. Rectal Surgery every week.

MEDICINE—Two Weeks Intensive Course starting June 2nd. One Month Course in Electrocardiography and Heart Disease every month, except August and December.

FRACTURES and TRAUMATIC SURGERY — Two Weeks Intensive Course starting May 5th and June 30th. Informal Course every week.

GYNECOLOGY—Two Weeks Intensive Course starting April 7th and June 16th. Clinical, Diagnostic and Didactic Course every week.

OBSTETRICS—Two Weeks Intensive Course starting April 21. Three Weeks Personal Course starting May 26. Informal Course every week.

OTOLARYNGOLOGY—Two Weeks Intensive Course starting April 7. Informal and Personal Courses every week.

OPHTHALMOLOGY—Two Weeks Intensive Course starting April 21. Informal Course every week.

ROENTGENOLOGY—Courses in X-Ray Interpretation, Fluoroscopy, Deep X-Ray Therapy every week.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties.

TEACHING FACULTY — ATTENDING
STAFF OF COOK COUNTY HOSPITAL

Address:

Registrar, 427 South Honore St., Chicago, Illinois

MICHIGAN PROGRAM FOR GRADUATES IN MEDICINE

Cooperating Agencies

Michigan State Medical Society
University of Michigan Medical School
Wayne University College of Medicine
Michigan Department of Health

Courses	Ann Arbor and Detroit	All Dates Inclusive
Allergy		May 12-16
Anatomy		February 12-May 28 (Wednesdays)
Diseases of the Blood and Blood-forming Organs		May 19-23
Diseases of the Genito-Urinary Tract		April 17, 18 and 19
Diseases of the Heart		May 21, 22, and 23
Electrocardiographic Diagnosis		November 3-8
Gastroenterology		April 28-May 1
Laboratory Technic		June 30-August 8
Nutritional and Endocrine Problems		November 3-6
Ophthalmology and Otolaryngology		April 17-23
Pathology: Special Pathology of Neoplasms		June 30-July 11
Pathology of the Female Genito-Urinary Organs		July 14-25
Special Pathology of the Eye		July 28-August 8
Special Pathology of the Ear, Nose, and Throat		August 11-22
Pediatrics		April 28, 29 and 30
Proctology		April 14, 15 and 16
Roentgenology		April 14-19
Summer Session Courses		June 30-August 8 and 22
Extramural Postgraduate Course		March 24-April 18

Subjects to be presented

1. The Care of the Injured.
2. The Diagnosis and Treatment of Meningitis.
3. Useful Drugs in Gastro-enterology.
4. Digestive Derangements in Infancy and Childhood
5. The Significance of Albuminuria.
6. Office Gynecology.
7. Clinical Conference. Diagnostic Problems in Non-Tuberculous Pulmonary Disease.

Ann Arbor—March 27, April 3, April 10, April 17

Battle Creek-Kalamazoo—March 25, April 1, April 8, April 15

Bay City—March 24, March 31, April 7, April 14

Flint—March 26, April 2, April 9, April 16

Grand Rapids—March 27, April 3, April 10, April 17

Lansing-Jackson—March 27, April 3, April 10, April 17

Mount Clemens—March 26, April 2, April 9, April 16

Traverse City-Cadillac-Manistee-Petoskey—March 28, April 4, April 11, April 18

The program will be mailed to physicians in the state within a few days.

For further information, address:
Department of Postgraduate Medicine
1313 Ann Street
Ann Arbor, Michigan

MICHIGAN MEDICAL SERVICE

This month marks the start of the *second* year of operation of Michigan Medical Service. The farsightedness of the medical profession in Michigan in promoting a wider distribution of medical care and better public relations by the organization of this non-profit medical service plan has been generally recognized. Committees or representatives from medical societies in nine states have come to Michigan to learn what Michigan Medical Service is doing. Also numerous requests for information from medical groups throughout the country have been received by mail.

The Second Year

The second year of operation of Michigan Medical Service should be even more successful because future actions can be based on actual experiences. With the splendid support of 3,387 participating doctors of medicine—three-fourths of the total possible number—it stands to reason that the medical service plan in Michigan can be developed to a most satisfactory program for the benefit of patients and doctors alike.

All doctors who have not yet sent in their Application for Registration with Michigan Medical Service should do so promptly in order that the public (not to mention politicians or other interested groups) may see that the medical profession is united in its endeavor to provide a means for persons with limited incomes to obtain medical services.

Medical Service Plan

During the first year, the enrollment in the Medical Service Plan has more than tripled. At present, over 5,300 persons are enrolled in this complete Medical Service Plan. Already there are indications that more and more persons are becoming aware of the value of budgeting in advance for necessary medical services in the home and the office, as well as for medical and surgical care in the hospital.

In addition to the committees and officers of Michigan Medical Service, many doctors serving on special committees representing the various fields of medical practice—the Michigan Dermatological Association, the Michigan Branch of

MICHIGAN MEDICAL SERVICE REGISTRATION

HONOR ROLL

(As of February 10, 1941)

100 Per Cent

Barry
Mason

90 to 99 Per Cent

Calhoun
Manistee
Menominee
Monroe
Newaygo
Tuscola

80 to 89 Per Cent

Allegan
Bay—Arenac—Iosco—Gladwin
Chippewa—Mackinac
Clinton
Delta—Schoolcraft
Dickinson—Iron
Gogebic
Gratiot—Isabella—Clare
Hillsdale
Ingham
Kent
Lenawee
Mecosta—Osceola
Midland
Oceana
O.M.C.O.R.O.
Ontonagon
Ottawa
Saginaw
St. Joseph

75 to 79 Per Cent

Branch
Eaton
Houghton—Baraga—Keweenaw
Lapeer
Muskegon
Northern Michigan
Wexford—Kalkaska—Missaukee

the American Urological Society, the Michigan Association of Roentgenologists and the Detroit Roentgen Ray Society, the Detroit Ophthalmological Society, the Michigan Association of Obstetricians and Gynecologists, and the Michigan Pediatric Society—are all giving generously of their time to help make the procedures under Michigan Medical Service in accord with the best medical practices.

Surgical Benefit Plan

The Surgical Benefit Plan has been more widely accepted by the public than the Medical Service Plan, primarily because of the lower subscription cost. Only a small percentage of the persons eligible for enrollment are willing to

budget enough to participate in the more complete Medical Service Plan. However, once the subscribers are enrolled in the Surgical Benefit Plan, they later desire to pay an additional amount to enroll in the more complete Medical Service Plan. This tendency has become evident in several groups which were originally enrolled in the Surgical Benefit Plan and later transferred to the Medical Service Plan.

Service to Ford Group Ended February 28

The Ford Motor Company, whose employees enrolled in the Surgical Benefit Plan one year ago, has decided to arrange for the transfer of its entire group to an insurance company plan, beginning March 1, 1941. On and after March 1, Ford employees who sign for the insurance company plan will be entitled to the usual insurance company schedule of payments for surgical operations. Michigan Medical Service will pay for services rendered Ford employees up to February 28, 1941.

The enrollment of other groups in the Surgical Benefit Plan is now in excess of 44,000 persons, representing 223 groups of subscribers, and additional groups are being enrolled daily. Hence, the termination of the Ford group will not seri-

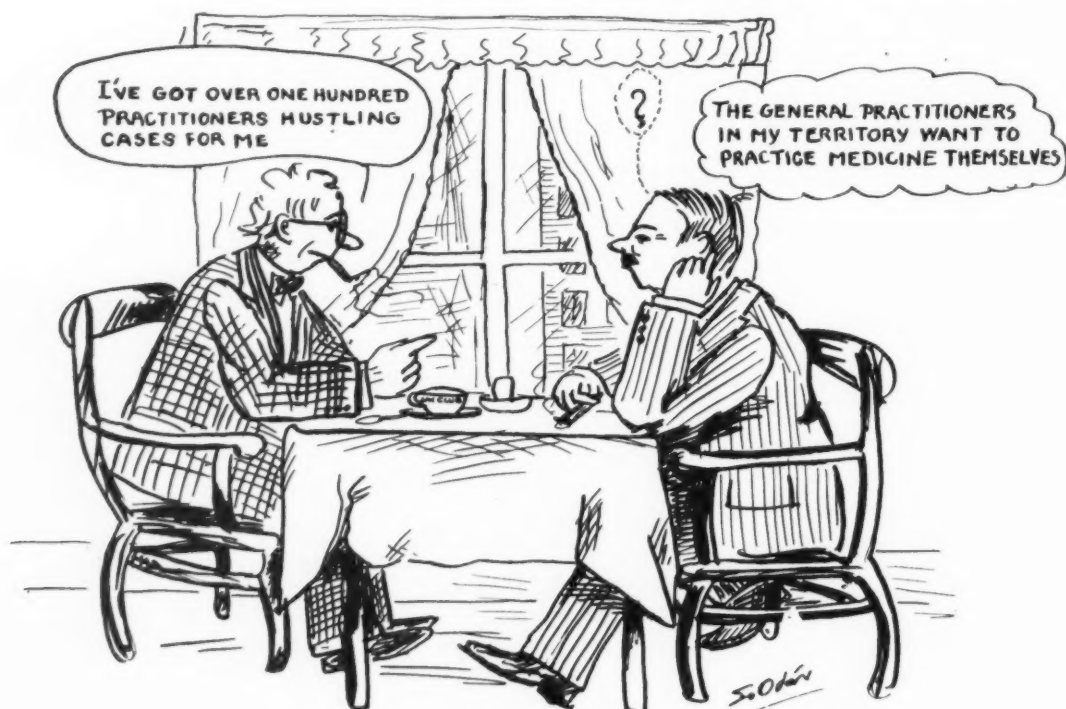
ously affect the continuous growth of Michigan Medical Service. It will mean that doctors of medicine may no longer have payment made directly to them for surgical operations rendered for these several thousand employees. *Under the insurance program, the employees will receive a specified number of dollars and it will be necessary for the doctor to collect his fee from the Ford employee direct.*

Weekly Payments

With additional coöperation on the part of doctors of medicine, it will be possible for Michigan Medical Service to make payments to doctors rendering services for subscribers within a week after services are completed.

To do so, it will be necessary for the doctor to send his Initial Service Report *immediately* on the day that his services are first requested by the subscriber. Upon receipt of this Report, the subscriber's eligibility for services can be verified and necessary records established.

In order that the payment can be made promptly, it is necessary for the doctor to send his Monthly Service Report immediately when services are completed. *Please fill in your Report completely so that your payments will not be delayed.*



Fifth Columnist?



SULFATHIAZOLE *Winthrop*

Another
**IMPORTANT
CHAPTER**
in
**ANTIBACTERIAL
CHEMOTHERAPY**

SULFATHIAZOLE constitutes an additional triumph of chemotherapeutic research which has proved of great value to clinical medicine.

PNEUMOCOCCUS INFECTIONS . . . Thousands of cases of pneumococcus pneumonia have responded with dramatic promptness to Sulfathiazole. In comparison with its pyridine analogue, Sulfathiazole is less likely to cause serious nausea or to provoke vomiting.

STAPHYLOCOCCUS INFECTIONS . . . With Sulfathiazole, the mortality rate of staphylococcus septicemia has been strikingly reduced. Thus, in a series of fifteen reported cases, all of the patients recovered.

GNOCOCCUS INFECTIONS . . . Early cessation of discharge and a high percentage of cures have been reported. Success has been observed in cases resistant to other chemotherapeutic agents.

Write for literature which discusses the indications, dosage and possible side effects of Sulfathiazole.



Specify **SULFATHIAZOLE
WINTHROP**



HOW SUPPLIED: Sulfathiazole-Winthrop is supplied in tablets of 0.5 Gm. (7.72 grains); also (primarily for children) in tablets of 0.25 Gm. (3.86 grains).

For preparing test solutions, powder in bottles of 5 Gm.

Winthrop **CHEMICAL COMPANY, INC.**

Pharmaceuticals of merit for the physician

NEW YORK, N. Y. - WINDSOR, ONT.

795M

MARCH, 1941

Say you saw it in the Journal of the Michigan State Medical Society

225



YOU AND YOUR BUSINESS



MICHIGAN HOSPITALS AND MEDICAL PAYMENTS PLAN

■ THE agreement re accident cases entered into by the insurance associations and independent companies, the State Medical Society and the Hospital Association was explained in detail in the February MSMS JOURNAL (pages 123 to 125, inclusive).

The three forms to be used in connection with this agreement were published in THE JOURNAL.

The Secretary will act as a clearing house from which Forms 1, 2 and 3 may be obtained. The cost of the forms in pads of 100 will be fifty cents; in pads of 50 the cost will be twenty-five cents. All three forms are not included in one pad, so if more than one form is required, be sure to specify, such as, "a pad of 100 of Form No. 1, a pad of 50 each of Forms No. 2 and 3," et cetera. Cash or postage stamps must accompany all orders for blanks. Individual blanks or copies of Forms 1, 2 and 3, singly or in combination, may be obtained for 5 cents.

Address orders for forms, inquiries, suggestions or complaints for the attention of the Conference Committee to L. Fernald Foster, M.D., 2020 Olds Tower, Lansing.

THE LAW ON OBSTETRICAL ENGAGEMENTS

■ WHEN a doctor accepts a patient for confinement, it makes no difference whatever whether this is a relief patient or a pay patient. The law requires the same degree of care and skill in discharging the contract. If a doctor is not available when labor begins, then the law imposes upon him the duty of providing a substitute. The fact that the doctor was called to attend another patient does not excuse him from the responsibility, if harm results, from his neglect of being present during the delivery. This is quite an important matter, and members of the profession should fully understand that when a physician agrees without qualification to attend a patient during confinement, he can only discharge that contract by being present or providing a substitute. The courts have many times

held that it is no excuse that the doctor was engaged with another patient or was making another delivery at the same time. He accepted the patient and must carry out his contract or provide competent assistance.

If before the patient enters labor, the doctor desires to withdraw from the case, then he may do so by giving the patient reasonable notice so that another doctor may be secured. This notice, of course, should be in writing or given orally in the presence of a witness who will be available to support the doctor should trouble develop at a later date. A doctor is not released from his duty under these circumstances by the mere fact that he is busy with another case. He has accepted employment and has consented to bind himself, and the law construes that he is bound by this contract and must discharge it in person or by a competent substitute or by giving timely notice to the patient so that she has sufficient time to secure another doctor.

AN AMBIGUOUS LAW

■ MICHIGAN's osteopathic practice act (Act 162 of the Public Acts of 1903) is so ambiguous that osteopaths themselves are not of one mind as to how far they may practice. Section 6760 states that the certificate provided in the practice act "*shall entitle the holder thereof to practice osteopathy in the state of Michigan in all of its branches as taught and practiced by the recognized colleges or schools of osteopathy.*" So for example, if a didactic course of neurosurgery were taught for a week or less in an osteopathic school, a licensed osteopath in Michigan thereby has the right to practice brain surgery on any and all patients!

A similar ambiguity in the Georgia law has just been clarified by its Supreme Court which held in the case of *Mabry v. State Board of Examiners in Optometry*, 10 S.E. (2d) 740 (Ga., 1940): "While the legislature has recognized osteopathy as one of the healing arts and has set up a plan for licensing osteopaths, it did not intend that osteopaths should be permitted to embrace the field of optometry and other professions by adopting the methods of healing

practiced by such professions, on the theory that such methods are taught and practiced in reputable colleges of osteopathy. To construe the osteopathic practice act as urged by the appellants would mean that by merely teaching and practicing every known science of healing in osteopathic colleges an osteopath would be permitted to practice without restraint all such methods of healing. This would nullify every regulatory statute of the state having for its purpose the licensing and regulation of the practice of the various professions of healing authorized by law."

The Georgia Supreme Court decided, therefore, that osteopaths could practice *only osteopathy* as taught and practiced in osteopathic schools.

LIABILITY OF PHYSICIANS IN MILITARY SERVICE

RECENTLY the following question was asked:
What is the liability of a physician for rent on a lease for the time he is serving his country with the armed forces?

The physicians' liability is altered to a very small extent by the fact that he is serving his country in its armed forces. The Soldiers' and Sailors' Relief Act of 1940 (Public No. 861—76th Congress) only suspends the enforcement of civil liabilities in certain cases where the agreed rent does not exceed \$80.00 per month. In these cases, no eviction or distress shall be made except on leave of court, but if in the opinion of the court the ability of the tenant to pay the agreed rent is not materially affected by reason of such military service no stay is to be granted. It may be added that the rental allowance of a First Lieutenant (the lowest rank for a physician) is \$60.00 per month. It thus appears doubtful if any stay would be granted by a court for such a case. However, if a stay is granted, the physician is not completely relieved of the obligation; it is only postponed.

PLACEMENT BUREAU

OPPORTUNITIES for practice are said to exist in several localities of Michigan.

For detailed information write the Placement Bureau, MSMS, 2020 Olds Tower, Lansing, Michigan.

MARCH, 1941



POTENT WHEN GIVEN
O R A L L Y

New TESTICULAR HORMONE
METANDREN, "Ciba"

METANDREN* exerts true androgenic power when taken by mouth. It is Ciba's synthetic, crystalline, chemically-pure-methyltestosterone. In most cases you administer about 4 mg. of Metandren per os for every mg. of testosterone propionate which you have been injecting. For example, you would give four 10-mg. tablets of Metandren in lieu of one 10-mg. ampule of testosterone propionate.

Indications for Male and Female — Where the physician deems injections inadvisable, for patients who travel, as maintenance therapy in testicular deficiency of: eunuchism, hypogonadism, impotence, the "male climacteric," prostatism, cryptorchidism, certain types of sterility . . . in menopausal disturbance, excessive uterine bleeding, selected dysmenorrheas, to inhibit postpartum lactation.

METANDREN IS ISSUED as scored tablets, 10 mg. each, in boxes of 15 and bottles of 30 and 100 tablets.



DETAILED LITERATURE UPON REQUEST

*Trade Mark Reg. U. S. Pat. Off. Word "Metandren" identifies the product as 17-methyltestosterone of Ciba's manufacture.

CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT, NEW JERSEY





Woman's Auxiliary



Bay County

The Bay County Woman's Auxiliary held its main meeting of the year on January 8 at the Mercy Hospital and Nurses Home. Dinner was served to a group of members and their husbands in compliment to Dr. Frank H. Power, of Ann Arbor, who was our lecturer for the evening.

Dr. Power gave an illustrated lecture on "Cancer," which was very interesting and informative. The public was invited to attend the lecture and a capacity crowd attended.

MRS. J. N. ASLINE,
Corresponding Secretary.

Genesee County

The regular monthly meeting of the Woman's Auxiliary of the Genesee County Medical Society was held on January 22 at 12:30 p. m. at the Y. W. C. A. with about 65 members present. Mrs. George Curry was chairman in charge with an assisting committee composed of Mrs. George Conover, Mrs. F. E. Reeder, Mrs. Arthur Kretchmar. The regular meeting was preceded by the board meeting at 11:45 a. m.

A change of date for both the February and March meetings was announced by the board. At the February meeting the program was in charge of Mrs. Clifford Colwell, who presented an Interior Decorator. The regular March meeting will be held on the third Tuesday, March 18, at Hurley Hospital.

BERNICE R. WRIGHT, *Chairman.*

Grand Traverse-Leelanau-Benzie

The Woman's Medical Auxiliary, having been organized a little over a year, is still in the embryonic stage, with a membership of twenty-one. We have held our meetings on the same evenings as the Medical Society, at the Central Michigan Children's Clinic, Traverse City.

Following our business sessions we have made supplies for the James Decker Munson Hospital, Traverse City. On two occasions we have had physicians speak to us, the Public Health Physician being one, who spoke on the Public Health Program in the counties. The other spoke on pending bills in the Legislature in regard to medicine.

Last October, after the infantile paralysis epidemic occurred in Northern Michigan, we decided to launch a drive for funds for an iron lung to be donated to Munson Hospital. The drive was very successful, the citizens and organizations of the community responding in a most generous manner, with the result that we have purchased the iron lung, costing \$1,500; also an infant respirator for the hospital, at a cost of \$375, and we still have funds to apply on a new project.

We have enjoyed our work and hope to accomplish greater things in the future.

MARJORIE W. THOMPSON,
Corresponding Secretary.

Jackson County

The regular monthly meeting of the Jackson County Medical Auxiliary was held January 21 at the Hayes Hotel. Dinner was served to eighteen members.

The business meeting was opened by the president, Mrs. G. R. Bullen. Mrs. Balconi read the minutes

of the October and November meetings and Mrs. Andrew Payne gave the treasurer's report.

After a very short meeting the evening was spent playing bridge, prizes going to Mrs. George Baker, Mrs. William Meade, Mrs. P. A. Scheurer and Mrs. Harold Dold. The committee consisted of Mrs. W. B. Anderson, Mrs. H. W. Porter, Mrs. W. L. Faust, Mrs. W. L. Finton, Mrs. F. J. Gibson, Mrs. R. J. Hanna, Mrs. W. H. Lake, Mrs. E. G. Wilson, Mrs. L. F. Thalner and Mrs. William Meade.

Saginaw County

The Saginaw County Auxiliary was indeed complimented on Tuesday evening, January 21, when Dr. and Mrs. Paul R. Urmston of Bay City visited the group. The meeting was held at the home of Mrs. Louis D. Gomon, Edgewood Road, Saginaw.

Dr. Urmston, president of the Michigan State Medical Society, spoke on the "Political and Economic Side of the Practice of Medicine." He also reviewed the program of the NYA, which has been approved by the State Society.

Yarn for Red Cross knitting was distributed to members and during a short business meeting it was decided to assist the Social Agencies in supplying Cod Liver Oil to indigent children.

Mrs. Fred Pietz was chairman of the social hour which followed. Dainty refreshments were served with the following committee assisting: Mrs. E. P. Richter, Mrs. F. E. Luger, Mrs. E. G. Tiedke, Mrs. J. H. Curtis, Mrs. C. W. Cory, Mrs. H. A. Phillips and Mrs. R. I. Lurie.

St. Clair County

At a dinner meeting of the Auxiliary to the St. Clair Medical Society held January 14 at the Chateau, members voted to meet Fridays from 1 to 4:30 p. m. at the Red Cross Headquarters to make surgical dressings.

Mrs. D. H. Burley, Almont, described the work of the Auxiliary of the Lapeer County Medical Society. Mrs. B. C. Clyne, Yale, and Mrs. W. H. Boughner, Algonac, were members from out of town at the meeting. A round table discussion followed Mrs. Burley's talk. Mrs. W. A. Schaeffer, vice president, conducted the business meeting.

ERNESTINE F. TREADGOLD,
Press Chairman.

Wayne County

On January 10, 1941, the Wayne County Woman's Auxiliary met at the Woman's City Club for luncheon preceding the regular meeting.

Dr. Bruce H. Douglas was the guest speaker who addressed the group on the "Prevention and Control of Tuberculosis in Detroit." Dr. Douglas' description of modern methods used in the control of this disease was both interesting and instructive. The statistics which he gave, showing the steady decline in the number of cases in the Detroit area, were very encouraging, but showed the tremendous amount of work yet to be done in stamping out this scourge.

At the close of the program there was a short business meeting, at which the president, Mrs. Frederick G. Buesser, presided.

MARGARET J. WALLACE,
Press Chairman.

WEHENKEL SANATORIUM

ROMEO

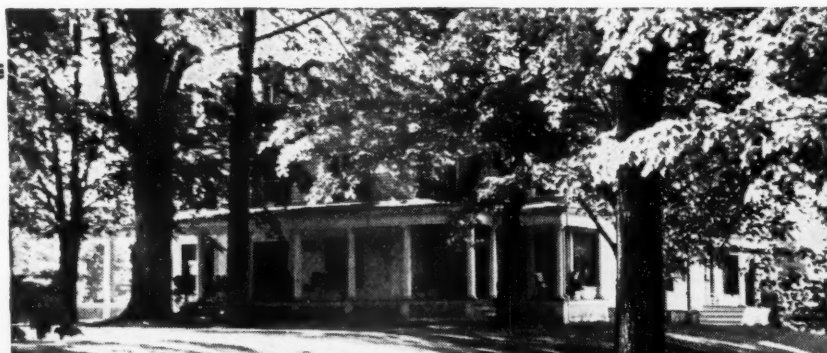
MICH.

§

§

PRIVATE
ESTATE

RESTFUL
AND
QUIET



CONVALESCENT
HOME FOR
TUBERCULOSIS



A MODERN, comfortable sanatorium adequately equipped for all types of medical and surgical treatment of tuberculosis. Sanatorium easily reached by way of Michigan Highway Number 53 to Corner of Gates St., Romeo, Michigan.

For Detailed Information Regarding Rates and Admission Apply

DR. A. M. WEHENKEL, Medical Director, City Offices, Madison 3312-3

Ferguson-Droste-Ferguson Sanitarium

Ward S. Ferguson, M. D.

James C. Droste, M. D.

Lynn A. Ferguson, M. D.

PRACTICE LIMITED TO
DIAGNOSIS AND TREATMENT OF

DISEASES OF THE RECTUM

Sheldon Avenue at Oakes
GRAND RAPIDS, MICHIGAN

Sanitarium Hotel Accommodations

★ MICHIGAN'S DEPARTMENT OF HEALTH ★

HENRY A. MOYER, M.D., Commissioner, Lansing, Michigan

NEW BUREAU OF TUBERCULOSIS

Dr. George A. Sherman of Pontiac has been appointed director of the Bureau of Tuberculosis, newly created bureau in the Michigan Department of Health. Previously, tuberculosis control has been one of the activities of the Bureau of Epidemiology.

In order to take over the tuberculosis work for the State Department of Health, Dr. Sherman resigned as director of the Oakland County Sanatorium, 250-bed institution which is the largest of the thirty-three county tuberculosis sanatoriums in the state.

"Organization of the new bureau is a step in a concentrated attack on tuberculosis which the State Department of Health will feature from now on," Commissioner Moyer said. "By intensifying finding of cases by x-ray and other methods, and by cooperating with other organizations having the same aim, we shall be able to bring more persons under early treatment. That will cut the cost to the state and to counties, and will mean more cures."

"I have received from physicians and others hearty approval of the appointment of Dr. Sherman. We are fortunate in getting him."

Dr. Sherman is forty-four years old, a diplomate of the American Board of Internal Medicine, and is a recognized tuberculosis specialist. He is a fellow of the American College of Physicians, a member of the Michigan Association of Roentgenologists, and a member of the Michigan State Medical Society. In 1939-40 he was a member of the Council of the Michigan State Medical Society. In 1939 he served as president of the Oakland County Medical Society.

Dr. Sherman is president of the Michigan Tuberculosis Association, and a past president of the Michigan Trudeau Society and the Michigan Sanatorium Association.

After graduation from McGill University, Faculty of Medicine, Dr. Sherman was instructor in internal medicine at the University Hospital, University of Michigan. He was medical director of the tuberculosis division of the hospital from 1926 to 1928. He entered private practice at Pontiac in 1929 and became medical director of the Oakland County Sanatorium in 1933.

LOBAR PNEUMONIA LESS

Lobar pneumonia cases reported so far this season have run far below ten-year average figures. The comparisons follow:

Reported Cases of Lobar Pneumonia	1940-41 Season	1939-40 Season	Ten-year Average
July	134	92	149
August	84	102	127
September	100	109	153
October	139	147	248
November	203	238	311
December	319	527	517
January	381*	410	619

*Incomplete.

October, November and December totals were the lowest reported for those months in the previous ten years, and January cases may also be a record low.

HEALTH UNITS APPRAISED

Appraisals of all county and district health departments on American Public Health Association standards are now being made. For a time, Dr. Carl Buck, field medical director of the A.P.H.A. and Dr. B. G. Horning, his assistant, will aid in the appraisals. This will be the first time that all county and district health departments in the state will have appraisals in the same year. Dr. E. V. Thiehoff, assistant director of the Bureau of Local Health Services, will make most of the appraisals, with the aid of Dr. Buck and Dr. Horning. Br. Bernard W. Carey and Miss Miriam Cummings of the Children's Fund will appraise the Upper Peninsula departments and the W. K. Kellogg Foundation will make appraisals in the seven counties where the Foundation works. The ratings will be finished by May 1.

PERSONNEL CHANGES

Dr. L. E. Kerr was named director of the Iron County Health Department by the board of supervisors January 11, 1941.

Physicians' Service Laboratory

608 Kales Bldg. — 76 W. Adams Ave.

Northwest corner of Grand Circus Park

Detroit, Michigan

CADillac 7940

Kahn and Kline Test

Blood Count

Complete Blood Chemistry

Tissue Examination

Allergy Tests

Basal Metabolic Rate

Autogenous Vaccines

Complete Urine Examination

Ascheim-Zonde

(Pregnancy)

Smear Examination

Darkfield Examination

All types of mailing containers supplied.

Reports by mail, phone and telegraph.

Write for further information and prices.

AN EDUCATIONAL FOUNDATION dedicated to scientific study, care and training of child presenting physical, mental or emotional difficulties.

BANCROFT SCHOOL

September to June

Bancroft Camp

June to September

Summer home of Bancroft School, located at Owls Head, Maine. Continued school schedules, swimming, tennis, golf, etc. Limited Enrolment. Medical Supervision.

Box 777

Jenzia C. Cooley, Prin.

Est. 1883

HADDONFIELD, NEW JERSEY

ZEMMER

PREScribe OR DISPENSE ZEMMER

Pharmaceuticals, Tablets, Lozenges, Ampules, Capsules, Ointments, etc. Guaranteed reliable potency. Our products are laboratory controlled.

Write for general price list.

THE ZEMMER COMPANY

MIC 3-41

Chemists to the Medical Profession

Oakland Station

Pittsburgh, Pa.



COUNTY AND PERSONAL ACTIVITIES



100 Per Cent Club for 1941

Barry
Ingham
Manistee
Muskegon
Oceana
Ontonagon
Tuscola

The above county medical societies have certified the 1941 dues of 100 per cent of their 1940 membership. A number of other societies have certified all but a few of their 1940 members. As soon as these few have paid their 1941 dues the list of 100 per cent county societies will be much larger.

For commissioned officers in the medical department of the regular navy the next examination will be held at all large naval hospitals on May 12, 1941, according to the Surgeon General of the United States Navy.

* * *

Enabling legislation to permit the establishment in Ohio of an organization similar to Michigan Medical Service has been introduced in the Ohio Legislature. It is sponsored by the Ohio State Medical Association.

"Plasma Vitamine C and Serum Protein Levels in Wound Disruption" is the title of an article appearing in the *Journal of the American Medical Association*, issue of February 22, 1941, by John B. Hartzell, M.D., James Winfield, M.D., and J. Logan Irvin, Ph.D., Detroit.

* * *

Wm. J. Burns, Executive Secretary of the MSMS, addressed the Danby Grange near Portland on Thursday, February 13. Mr. Burns also spoke to the E. O. T. C. Club of Leslie on Tuesday, February 18. His subject at each meeting was "State-Managed Medicine vs. Michigan Medical Service."

* * *

J. Earl McIntyre, M.D., Lansing, Secretary of the State Board of Registration in Medicine, was installed on February 17, 1941, in Chicago, as President of the Federation of State Medical Boards of the United States at the annual meeting of the Federation. Congratulations!

* * *

Physicians wanted by United States Civil Service. Applications are being accepted by the U. S. Civil Service Commission, Washington, D. C., for Senior Medical Officer at \$4,600; Medical Officer at \$3,800; and Associate Medical Officer at \$3,200 per year for service in the following agencies: Public Health Service, Food and Drug Administration, Veterans' Administration, Civil Aeronautics Administration and Indian Service.

*For the Local Treatment
of Acute Anterior*

URETHRITIS

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE *

Wyeth

A complete technique of treatment and literature will be sent upon request

JOHN WYETH & BROTHER, INCORPORATED, PHILA.

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by *Neisseria gonorrhoeae*. (1) An aqueous solution (0.5 per cent) of silver picrate or water-soluble jelly (0.5 per cent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," *Am. J. Syph. Gon. & Ven. Dis.*, 23, 201 (March) 1939.

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble titration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.



Main Entrance

SAWYER SANATORIUM

White Oaks Farm

Marion, Ohio

For the treatment of
Nervous and Mental Diseases
and Associated Conditions

Licensed for
The Treatment of Mental Diseases
by the Department of Public Welfare
Division of Mental Diseases
of the State of Ohio

Accredited by
The American College of Surgeons

Member of
The American Hospital Association
and
The Ohio Hospital Association

Housebook giving details, pictures,
and rates will be sent upon request.
Telephone 2140. Address,

SAWYER SANATORIUM

White Oaks Farm

Marion, Ohio

Lt. Colonel Harold A. Furlong, M.D., formerly of Pontiac, head of the Medical Board, State Headquarters of Selective Service, was appointed Administrator, Michigan Council of Defense, by Governor Murray D. Van Wagoner on January 24. Congratulations, Doctor Furlong!

* * *

At the recent National Conference on Medical Service in Chicago on February 16 the following from Michigan were present: P. R. Urmston, M.D., Bay City; Henry R. Carstens, M.D., and A. S. Brunk, M.D., Detroit; L. Fernald Foster, M.D., Bay City; Harold A. Miller, M.D., Lansing; T. S. Conover, M.D., Flint; C. E. Black, M.D., and J. Earl McIntyre, M.D., Lansing; E. W. Schnoor, M.D., Grand Rapids; S. W. Donaldson, M.D., Ann Arbor; L. J. Hirschman, M.D., Detroit; George Le Fevre, M.D., Muskegon; Wm. J. Burns, Lansing; J. D. Laux and James A. Bechtel, Detroit.

* * *

Doctor, remember your particular friends, the exhibitors, at your annual convention, when you have need of equipment, appliances, medical supplies and service. Here are ten more of the firms which helped make the 1940 convention such a success:

Medical Protective Company, Wheaton, Illinois
Medical Case History Bureau, New York
Medical Arts Surgical Supply Company, Grand Rapids
Mead Johnson & Company, Evansville, Indiana
M. & R. Dietetic Laboratories, Inc., Columbus, Ohio
J. B. Lippincott Company, Philadelphia
Eli Lilly & Company, Indianapolis
Liebel-Flarsheim, Cincinnati
Libby, McNeill & Libby, Chicago
Lederle Laboratories, Inc., New York

* * *

The Northern Tri-State Medical Association will hold its 1941 Meeting at Tiffin, Ohio, on April 8. According to E. B. Gillette, M.D., of Toledo, Secretary of the Association, the following outstanding physicians have been secured for the program which will begin at 9:00 a. m. in the Tiffin Theater opposite the Shawhan Hotel: Frederick P. Yonkman, M.D., Detroit; Carl D. Camp, M.D., Ann Arbor; A. D. Ruedemann, M.D., Cleveland; E. Perry McCullagh, M.D., Cleveland; Roy W. Scott, M.D., Cleveland; George M. Curtis, M.D., Columbus; W. D. Gatch, M.D., Indianapolis; Wm. N. Wishard, M.D., Indianapolis, and Elliott P. Joslin, M.D., Boston. Write E. B. Gillette, M.D., 320 Michigan Street, Toledo, Ohio, for complete program.

* * *

Clinic Day at St. Mary's Hospital, Detroit, is scheduled for March 20. The program which begins at 9:00 a. m. includes the following speakers: Roy D. McClure, M.D., Detroit; Charles G. Johnson, M.D., Detroit; Henry K. Ransom, M.D., Ann Arbor; Virgil S. Counsellor, M.D., Rochester, Minnesota; A. E. Catherwood, M.D., Detroit; Harold Henderson, M.D., Detroit; Frederick A. Collier, M.D., Ann Arbor; Lester R. Dragstedt, M.D., Chicago; C. Fremont Vale, M.D., Detroit; Warren B. Cooksey, M.D., Detroit; John B. Hartzell, M.D., Detroit; Richard M. Johnson, M.D., Detroit; Edward Ducey, M.D., Detroit; Robert L. Schaefer, M.D., Detroit; Elwood A. Sharp, M.D., Detroit; J. P. Pratt, M.D., Detroit; George Rieckhoff, M.D., Detroit; Arthur B. McGraw, M.D., Detroit; Professor James Reyniers, South Bend, Indiana; Henry N. Harkins, M.D., Detroit; D. K. Kitchen, M.D., Detroit; Walter J. Wilson, Sr., M.D., Detroit; Rev. Hugh O'Donnell, President, Notre Dame University, South Bend; Henry A. Luce, M.D., Detroit; Mr. Frank Cody, Detroit; Allan McDonald, M.D., Detroit; Edgar Norris, M.D., Detroit, and Rev. Alphonse M. Schwitalla, S.J., St. Louis, Missouri.

JOUR. M.S.M.S.

The MSMS Radio Committee advises that the following Health Talks were broadcast over radio station CKLW:

Saturday, February 1, 1941—"Simple Facts About How We Hear," by Wadsworth Warren, M.D., Detroit.

Saturday, February 8, 1941—"Scarlet Fever," by Franklin H. Top, M.D., Detroit.

Saturday, February 15, 1941—"Artificial Fever Therapy," by Donald Francis, M.D., Detroit.

Saturday, February 22, 1941—"The Importance of Prenatal Care," by Harold Mack, M.D., Detroit.

Saturday, March 1, 1941—"The Value of Anesthesia in Surgery and Medicine," by Norman Bittrick, M.D., Detroit.

* * *

Warning! Check forger at large in Michigan described as 55 to 58 years of age, 5 feet 5 inches to 5 feet 8 inches tall, about 185 pounds, smooth talker and fairly well dressed, poses as a state employee and passes small checks in amounts from \$9.50 to \$12.00, which are supposedly for expense accounts on the State Highway, Auditor General and State Conservation Departments. He is also known to have passed Township and County checks. He generally purchases a small item and obtains the balance of the check in cash. He has used the following names: Chester Parker, Sr., Peter T. Bogan, George W. Clark, Charles H. Carlisle and James H. Carter. The name of the city, the bank, the title of the person signing the check, the name of the department, etc., is inserted with a typewriter, and he uses a check protector. If you have any information on this man, please notify your local police or the Michigan State Police, East Lansing.

* * *

Henry F. Vaughan, D.P.H., Detroit, has been named Professor of Public Health to head the newly created School of Public Health at the University of Michigan. Doctor Vaughan has been special lecturer in public health administration at the University since 1922. Doctor Vaughan will cooperate in planning a new building and organization of the new school, which it is hoped will be ready for operation this fall. The W. K. Kellogg Foundation and the Rockefeller Foundation are cooperating in the establishment of the school, each contributing \$500,000. Not more than one-half of the total of \$1,000,000 thus contributed may be used for site, building and equipment, the remainder to be spread out over a ten-year period for expenses of operation. Doctor Vaughan received his degree in public health from the University of Michigan in 1916. He has served as associate professor of public health at Wayne University from 1915 to 1937 and since 1937 has been professor of preventive medicine and public health at Wayne. He has been commissioner of health in Detroit since 1918.

* * *

COUNTY MEDICAL SOCIETY MEETINGS

Bay—Wednesday, January 29—Bay City—Speaker: H. A. Pearse, M.D., Detroit—Subject: "Clinical Gynecology."—Wednesday, February 12—Bay City—Program: "Studies in Human Fertility."—Wednesday, February 26—Bay City—Speaker: A. E. Schiller, M.D., Detroit—Subject: "The Problem of Dermatitis in Practice."

Berrien—Wednesday, February 12—Niles—Speaker: Jesse T. Harper, M.D., Detroit—Subject: "Present-Day Thoughts on the Treatment of Hemorrhoids."

Calhoun—Tuesday, February 4—Battle Creek—Speaker: Hobart A. Reimann, M.D., Philadelphia—Subject: "Treatment of Pneumonia."

Dickinson-Iron—Thursday, February 6—Iron Mountain—Subject: "Public Health as it relates to the Community and Private Practice" in charge of Drs. Kerr and Place.

MARCH, 1941

Say you saw it in the Journal of the Michigan State Medical Society

There's no fee for this advice

In cases of real thirst, nothing is more welcome to a welcome guest than a high-ball made with smooth, mellow Johnnie Walker . . .



IT'S SENSIBLE TO STICK WITH

JOHNNIE WALKER

BLENDED SCOTCH WHISKY



Red Label
8 years old

Black Label
12 years old

Both 86.8 proof



BORN 1820
... still going strong

CANADA DRY GINGER ALE, INC., NEW YORK, N. Y.
SOLE IMPORTER

HARTZ JELLY—A Non-Irritating Lubricant



Hartz Jelly is a water-soluble, fat-free lubricant for hands, sounds, catheters, bougies, cystoscopes, and other body-entering instruments.

Hartz Jelly contains no petroleum, soap, starch or other objectionable materials. It insures an easy introduction with the least inconvenience to the patient.

7 FLOORS MEDICAL SUPPLIES

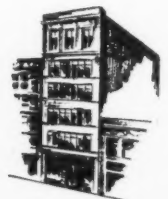
PRICE:
\$1.50
a dozen tubes



LABORATORY OF
THE J. F. HARTZ CO.

1529 Broadway, Detroit . . Cherry 4600

PHARMACEUTICAL MANUFACTURERS • MEDICAL SUPPLIES



Hillsdale—Thursday, February 20—*Hillsdale*—Speaker: Charles F. McKhann, M.D., *Ann Arbor*—Subject: "The Chronically Undernourished Child" and clinical conference.

Ingham—Tuesday, February 18—*Lansing*—Speaker: Arthur C. Curtis, M.D., *Ann Arbor*—Subject: "Chemotherapy in Pneumonia."

Ionia-Montcalm—Tuesday, February 11—*Stanton*—Speaker: C. H. Snyder, M.D., *Grand Rapids*—Subject: "Orthopedic Conditions as seen by the General Practitioner."

Jackson—Tuesday, February 18—*Jackson*—Speaker: Wm. J. Cassidy, M.D., *Detroit*, Color Movies of Abdominal Operations.

Kalamazoo—Tuesday, February 18—*Kalamazoo*—Speaker: Richard Freyberg, M.D., *Ann Arbor*—Subject: "Newer Treatments for Arthritis."

Kent—Tuesday, February 11—*Grand Rapids*—Speaker: Pearl Kendrick, M.D.

Muskegon—Friday, February 21—*Muskegon*—Speaker: Attorney John F. Frederick—Subject: "Intangible Tax"—Also color motion picture on "Regional Anesthesia."

Oakland—Wednesday, February 5—*Routunda Inn*—Speaker: J. C. Pratt, M.D., *Detroit*—Subject: "Recent Advances in Obstetrics and Gynecology."

Ottawa—Tuesday, February 11—*Grand Haven*—Speaker: Harold Dykhuizen, M.D., *Muskegon*—Subject: "Rôle of Urology to Essential Hypertension."

St. Clair—Tuesday, January 28—*Port Huron*—Program: Motion picture "The Treatment of Eclampsia." Tuesday—February 11—*Port Huron*—Speaker: George Leckie, M.D., *Detroit*—Subject: "Tuberculosis of the

Genito-Urinary Tract." Tuesday—February 25—*Port Huron*—Speaker: H. J. Kullman, M.D., *Detroit*—Subject: "Indications for and Value of Gastroscopy."

St. Joseph—Thursday, February 13—*Sturgis*—Speaker: Captain Herbert D. Edger of Fort Custer—Subject: "Military Medicine."

Shiawassee—Thursday, February 20—*Owosso*—Speaker: R. H. Freyberg, M.D., *Ann Arbor*—Subject: "Treatment of Chronic Arthritis."

Washtenaw—Tuesday, February 11—*Ann Arbor*—Speaker: Udo J. Wile, M.D., *Ann Arbor*—Subject: "Pitfalls in the Diagnosis and Treatment of Syphilis."

Wayne County—Monday, March 3—*Detroit*—General Meeting—Speaker: Stanley P. Reimann, M.D., *Philadelphia*—Subject: "Normal Intracellular Constituents in Relation to Growth." Monday, March 10—Medical Meeting—Speaker: Virgil E. Simpson, M.D., *Louisville*—Subject: "The Physician, the Pharmacist, and the Pharmacopœia." Monday, March 17—General Practice Meeting—Speaker: R. W. McNealy, M.D., *Chicago*—Subject: "The Mechanics of Inguinal Hernia." Monday, March 24—Surgical Meeting—Speaker: Geza de Takats, M.D., *Chicago*—Subject: "Pulmonary Embolism." Monday, April 7—General Meeting—Speaker: John T. Murphy, M.D., *Toledo*—Subject: "Cancer of the Skin."—Annual Hickey Memorial Lecture.

West Side (Wayne County)—Wednesday, February 19—*Detroit*—Speakers: Harry C. Saltzstein, M.D., on "Terminal Pictures in Malignancy in Contract with other Terminal Pictures" and Frank A. Lamberson, M.D., on "Treatment with Illustrations of Abscesses of the Face, Neck and Chest," also motion pictures on "Studies in Human Fertility."

COUNCIL AND COMMITTEE MEETINGS

1. Tuesday, February 4, 1941—11:00 a. m.—Special meeting of representatives of seven organizations re afflicted-crippled child law amendments—Hotel Olds, Lansing.
2. Thursday, February 6, 1941—3:00 p. m.—Executive Committee of The Council—Hotel Olds, Lansing.
3. Thursday, February 13, 1941—3:00 p. m.—Legislative Committee—Hotel Olds, Lansing.
4. Monday, February 17, 1941—6:30 p. m.—Cancer Committee—Woman's League, Ann Arbor.
5. Tuesday, February 18, 1941—11:00 a. m.—Special meeting of representatives of seven organizations re afflicted-crippled child law amendments—Hotel Olds, Lansing.

* * *

McGREGOR CONVALESCENT HOME



The new Convalescent Home of the McGregor Health Foundation has been opened in Detroit. The McGregor Health Foundation, a charitable incorporation of the State of Michigan, was founded seven years ago by the late Tracy W. McGregor, a well-known Detroit philanthropist.

Since its inception the Foundation has been working in the field of convalescent and rest care as an aid to a more full and rapid recovery from illness. Numerous studies have been made of this problem by the McGregor Health Foundation and many deserving patients have been aided by them. A few months ago a thirty-bed convalescent home was opened by this Foundation in Detroit, where such useful adjuncts to recovery from illness as a pleasing and restful environment, physiotherapy, diversional therapy, dietotherapy, and expert nursing service, may be provided at a minimal cost.

The Foundation is managed by a Board of Trustees composed of physicians, laymen and professional workers. Michigan is indeed fortunate in having the McGregor Health Foundation working in this most important field of medical care.

* * *

The February meeting of the Michigan Pathological Society was held as a joint meeting with the Detroit X-ray and Radium Society at Henry Ford Hospital on Saturday, February 8. The Detroit X-ray and Radium Society had invited members of the Michigan Radiological Society to be present as guests. Sixty-four were in attendance.

The afternoon session consisted of demonstrations on the subject, "Tumors and Cysts of Bone," and at the evening session, the cases previously demonstrated were presented and discussed. Cases were presented by Drs. Kaump, Frank Hartman, Lester Hoyt, M. O. Alexander, Howard Doub, John Murphy, and S. M. Gould.

The next meeting will be held on April 19, in Flint, Michigan, at the Hurley Hospital, subject to be selected.

MARCH, 1941

Say you saw it in the Journal of the Michigan State Medical Society

RADIUM

RENTED

for the individual case at lowest rates. Instruments loaned.

LEASED

in any quantity of 50 milligrams or more, on a yearly basis. Continuous possession. No investment.

SOLD

in any quantity in latest platinum containers.

RADON in all-gold
Implants at \$2.50 per
millicurie.

For details, address

RADIUM AND RADON CORP.
Marshall Field Annex • Randolph 8855
CHICAGO

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

Basal Metabolism

Aschheim-Zondek Pregnancy Test

Intravenous Therapy with rest rooms for Patients.

Electrocardiograms

Central Laboratory

Oliver W. Lohr, M.D., Director

537 Millard St.

Saginaw

Phone, Dial 2-3893

The pathologist in direction is recognized
by the Council on Medical Education
and Hospitals of the A. M. A.

LABORATORY APPARATUS

Coors Porcelain
Pyrex Glassware
R. & B. Calibrated Ware
Chemical Thermometers
Hydrometers
Sphygmomanometers

J. J. Baker & Co., C. P. Chemicals
Stains and Reagents
Standard Solutions

• BIOLOGICALS •

Serums	Vaccines
Antitoxins	Media
Bacterins	Pollens

We are completely equipped and solicit your inquiry for these lines as well as for Pharmaceuticals, Chemicals and Supplies, Surgical Instruments and Dressings.

The RUPP & BOWMAN CO.
319 SUPERIOR ST., TOLEDO, OHIO

THE DOCTOR'S LIBRARY

Acknowledgement of all books received will be made in this column and this will be deemed by us as a full compensation of those sending them. A selection will be made for review, as expedient.

DISEASES OF THE DIGESTIVE SYSTEM. Edited by Sidney A. Portis, B.S., M.D., F.A.C.P., Associate Clinical Professor of Medicine, Rush Medical College of the University of Chicago; Attending Physician, Michael Reese Hospital; Consulting Physician, Cook County Hospital, Chicago. Illustrated with 176 engravings. Philadelphia: Lea & Febiger, 1941. Price: \$10.00.

The reputation of Sidney Portis as a gastro-enterologist guarantees the reliability of this textbook. As he says, "The modern gastro-enterologist must be thoroughly trained in the laboratory and have a broad general clinical experience in all branches of internal medicine." He has had the assistance of fifty-one contributors, all of whom have established themselves in their various fields. It is not a very readable book but provides in textbook fashion a complete story of the present-day knowledge of gastro-intestinal diseases. Treatment is especially emphasized, thus enhancing the value of the volume to the practitioner.

IT IS YOUR LIFE. Keep Healthy—Stay Young—Live Long. By Max M. Rosenberg, M.D., Member, American Medical Association and New York County Medical Society. Formerly in charge of Clinical Laboratory O. P. Dep't, Beth Israel Hospital; Clinical Asst. Internal Medicine, Beth Israel Hospital; Clinical Asst. Pediatrics, Gouveneur Hospital. New York: The Scholastic Book Press, 1940. Price \$2.50.

This is a very sensibly written book of medical advice to the layman and avoids more than usual the common fault of lay medical books in mass prescribing. The language is clear and for the most part reliable. In the hands of the average patient it is safe and should be of educational value.

DIET MANUAL. Dietetics Department, Harper Hospital, Detroit, Michigan. Copyright 1940.

When a hospital of the standing of Harper Hospital in Detroit issues a volume of diet lists and instructions it can be unequivocally accepted as authentic and practical. A study of this manual bears out this expectation. All practical consideration seems to be well covered.

A TEXTBOOK OF CLINICAL PATHOLOGY. Edited by Roy R. Kracke, Emory University, Georgia, and Francis P. Parker, Emory University, Georgia. Second Edition. A William Wood Book. Baltimore: The Williams & Wilkins Company, 1940. Price: \$6.00.

This second edition has been completely revised and reset. There are many changes due to the addition of new material, particularly new procedures which have been introduced in the last two years. A new chapter on determinations of vitamins and hormones, a rewritten chapter on serological procedures in the diagnosis of syphilis, examination of the bone marrow, and many other additions and revisions of laboratory material are included. It is well arranged, accurately written and well illustrated with both ordinary and color plates.

PROFESSIONAL PROTECTION

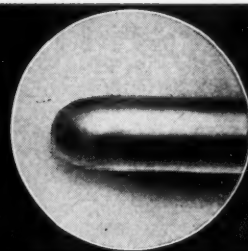


A DOCTOR SAYS:

"Your tact, coöperation and determination to protect the doctor at all costs have been surely demonstrated in this instance."

THE
MEDICAL PROTECTIVE COMPANY
OF
FORT WAYNE, INDIANA

RADON SEEDS



*f*OR safety and reliability use composite Radon seeds in your cases requiring interstitial radiation. The Composite Radon Seed is the only type of metal Radon Seed having smooth, round, non-cutting ends. In this type of seed, illustrated here highly magnified, Radon is under gas-tight, leak-proof seal. Composite Platinum (or Gold) Radon Seeds and loading-slot instruments for their implantation are available to you exclusively through us. Inquire and order by mail, or preferably by telegraph, reversing charges.

THE RADIUM EMANATION CORPORATION
GRAYBAR BLDG. Telephone MO 4-6455 NEW YORK, N. Y.

CLASSIFIED ADVERTISING

ADMINISTRATOR'S SALE: The medical equipment of the late A. H. Burleson, M.D., must be sold. If interested, write to W. P. Pollard, Administrator, Olivet, Michigan.

WANTED: Physician for general practice during the month of June and for an indefinite period thereafter. Salary guaranteed. Send inquiries to Box 10, Journal of the M.S.M.S., 2020 Olds Tower, Lansing, Michigan.

WANTED: POSITION AS ASSISTANT to general surgeon or industrial surgeon or as resident in surgery; young married physician; M.D. University of Michigan Medical School; completed internship, assistant residency and residency in surgery at larger midwestern metropolitan hospital; conscientious, excellent references; licensed in Michigan. Box 20, Michigan State Medical Society, 2020 Olds Tower, Lansing, Michigan.

Forms to be used in connection with the Michigan Hospital and Medical Payment Plan are available in pads of 50 and 100 (25c and 50c respectively). Signify Form 1, 2 or 3 and amount desired. Address, Secretary, 2020 Olds Tower, Lansing.

86c out of each \$1.00 gross income
 used for members benefit

**PHYSICIANS CASUALTY ASSOCIATION
 PHYSICIANS HEALTH ASSOCIATION**



Hospital, Accident, Sickness



INSURANCE

For ethical practitioners exclusively
 (52,000 Policies in Force)

LIBERAL HOSPITAL EXPENSE COVERAGE	For \$10.00 per year
\$5,000.00 ACCIDENTAL DEATH	For
\$25.00 weekly indemnity, accident and sickness	\$33.00 per year
\$10,000.00 ACCIDENTAL DEATH	For
\$50.00 weekly indemnity, accident and sickness	\$66.00 per year
\$15,000.00 ACCIDENTAL DEATH	For
\$75.00 weekly indemnity, accident and sickness	\$99.00 per year

38 years under the same management

**\$1,850,000 INVESTED ASSETS
 \$9,500,000 PAID FOR CLAIMS**

\$200,000 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability.

Send for applications, Doctor, to

400 First National Bank Building Omaha, Nebraska

HAVE you received your copy of the 75 page brochure "Citrus Fruits and Health"? You'll find a wealth of informative, authoritative material, carefully compiled and exhaustively treated. Free on request to members of the medical profession.

Write for it.

FLORIDA CITRUS COMMISSION

Lakeland

Florida

The Mary E. Pogue School

For Exceptional Children

DOCTORS: You may continue to supervise the treatment and care of children you place in our school. Catalogue on request.

WHEATON, ILLINOIS

85 Geneva Road

Telephone Wheaton 66

Behind MERCUROCHROME

(dibrom-oxymercuri-fluorescein-sodium)



is a background of

Precise manufacturing methods insuring uniformity

Controlled laboratory investigation

Chemical and biological control of each lot produced

Extensive clinical application



Thirteen years' acceptance by the Council of Pharmacy and Chemistry of the American Medical Association

A booklet summarizing the important reports on Mercurochrome and describing its various uses will be sent to physicians on request.

Hynson, Westcott & Dunning, Inc.

BALTIMORE, MARYLAND

DeNIKE SANITARIUM, Inc.

Established 1893



**EXCLUSIVELY for the TREATMENT
OF
ACUTE and CHRONIC ALCOHOLISM**

Mild Neuropsychic Cases
Admitted

1571 East Jefferson Avenue
Cadillac 2670 Detroit

A. JAMES DENIKE, M.D.
Medical Superintendent

IS YOUR DIABETIC RECEIVING A SQUARE DEAL?

He will, if you advise Square Deal Flour, rich in minerals, high in vitamins, moderate in food content.

Like a sample, Doctor?

CURDOLAC FOOD CO.

Box 472

Waukesha, Wisconsin

In Lansing

HOTEL OLDS

Fireproof

400 ROOMS

PROFESSIONAL ANNOUNCEMENTS

CYRUS B. GARDNER, M.D., F.A.C.S.

Surgery

Consultations by Appointment

Physicians and Surgeons Bldg.
LANSING, MICHIGAN

R. EARLE SMITH, M.D.

Practice Limited to

DERMATOLOGY

Suite 709, Ashton Building
GRAND RAPIDS, MICHIGAN

Randolph 8123

Residence
Longfellow 1483

WALTER J. WILSON, M.D.
WALTER J. WILSON, Jr., M.D.
1245-47 David Whitney Building

CARDIOLOGY
PORTABLE ELECTROCARDIOGRAPHY
Office Consultation
by Appointment
DETROIT

**HARLEN MACMULLEN, M.D.,
F.A.C.S.**

General Surgery

MANISTEE, MICHIGAN

MILTON G. BUTLER, M.D.

Practice limited to
**DERMATOLOGY AND
SYPHILOLOGY**

407 Building and Loan Bldg.
SAGINAW, MICHIGAN

WM. A. LANGE, M.D.

Practice limited to
**PLASTIC AND RECONSTRUCTIVE
SURGERY**

including hare lips and cleft palates
1610 EATON TOWER
DETROIT

**GEORGE L. LE FEVRE, M.D.,
F.A.C.S.**

General Surgery

MUSKEGON, MICHIGAN

**BOUTON F. SOWERS, M.D.
F.A.C.S.**

General Surgery

BENTON HARBOR, MICHIGAN

LLOYD A. CAMPBELL, M.D.
405 Bldg. & Loan Bldg.
SAGINAW

Practice limited to the treatment of
CANCER and ALLIED DISEASES
with
X-RAYS and RADIUM

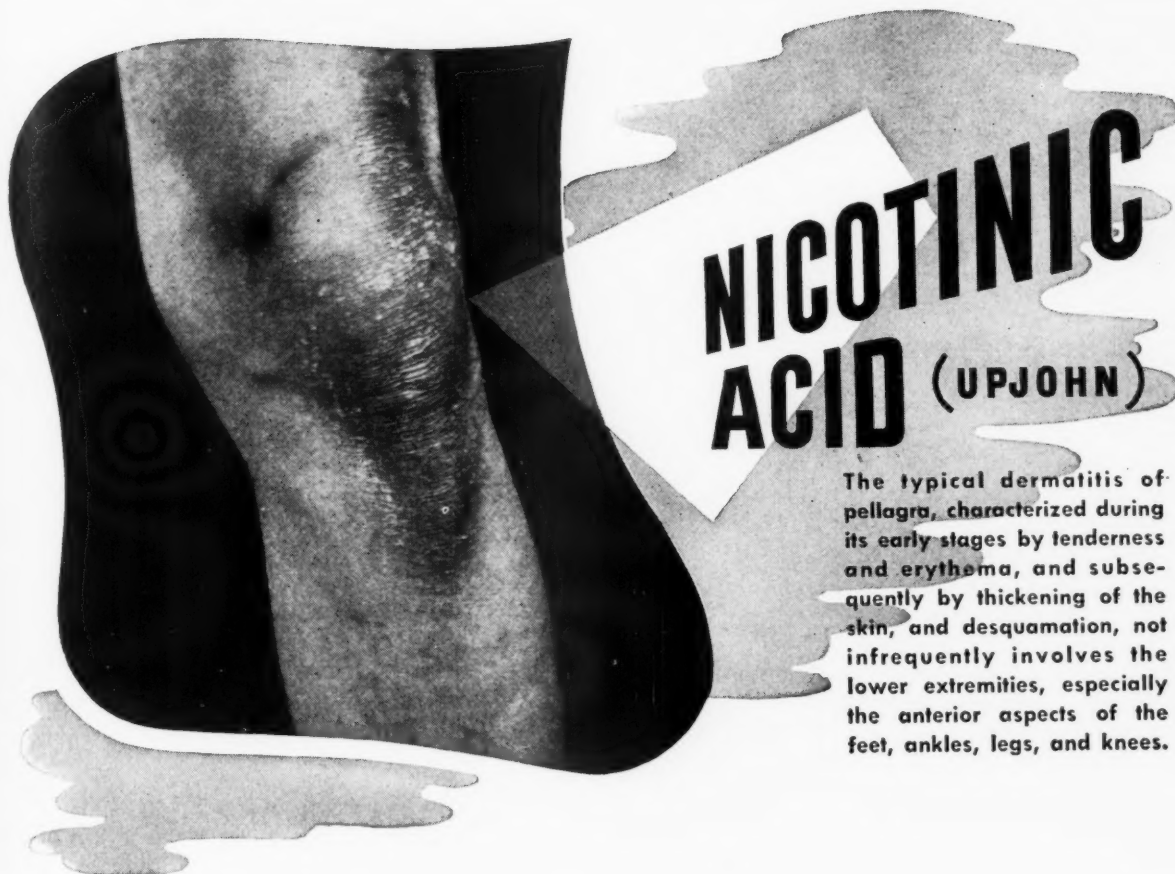
TEAR THIS OUT AND SEND IT
WITH YOUR COPY

Date
To The Journal, Michigan State Medical Society,
2020 Olds Tower, Lansing, Michigan
Please insert the enclosed in your advertising pages,
under the Classification of Professional Announcements.
I agree to pay for this space at the rate of Twenty-five
Dollars (\$25.00) per year, in quarterly payments.
Signed
Street
City



INDEX TO ADVERTISERS

American Can Co.	176	Lederle Laboratories, Inc.	175
Bancroft School	230	Lilly, Eli, & Co.	178
Barry Allegry Laboratories	162	M. & R. Dietetic Laboratories	170
Borden Co.	169	Mead Johnson & Co.	Back Cover
Camp, S. H., & Co.	171	Medical Protective Co.	236
Canada Dry Ginger Ale, Inc.	233	Milwaukee Sanitarium	Back Cover
Central Laboratory	235	Parke, Davis & Co.	163
Ciba Pharmaceutical Products, Inc.	227	Petrolagar Laboratories	Inside Front Cover
Classified Advertising	237	Physicians Casualty Association	237
Coca-Cola Co.	240	Physicians Service Laboratory	230
Cook County Graduate School of Medicine	221	Pogue, Mary E., School	238
Corn Products Sales Co.	174	Professional Announcements	239
Curdolac Food Co.	238	Radium & Radon Corporation	235
De Nike Sanitarium	238	Radium Emanation Corporation	237
Fairchild Bros. & Foster	167	Rupp & Bowman Co.	236
Ferguson-Droste-Ferguson Sanitarium	229	S.M.A. Corporation	Inside Back Cover
Florida Citrus Commission	238	Sawyer Sanatorium	232
General Electric X-Ray Corporation	173	Schering Corporation	165
Hack Shoe Co.	177	Squibb, E. R., & Sons	172
Hartz, J. F., Co.	234	Upjohn Co.	161
Holland-Rantos Co.	168	Wehenkel Sanatorium	229
Hotel Olds	238	Winthrop Chemical Co.	225
Hynson, Westcott & Dunning	238	Wyeth, John, & Bro.	231
Ingram, G. A., Co.	167	Zemmer Co.	230



The typical dermatitis of pellagra, characterized during its early stages by tenderness and erythema, and subsequently by thickening of the skin, and desquamation, not infrequently involves the lower extremities, especially the anterior aspects of the feet, ankles, legs, and knees.

The administration of nicotinic acid in appropriate doses in cases of pellagra leads not only to the clearing of the cutaneous manifestations of the disease but also to the disappearance of the alimentary lesions and symptoms, and to a profound improvement in the mental symptoms when the latter are the result of inadequate intake of nicotinic acid.

Pellagra, however, is frequently accompanied by evidences of deficiencies of other factors of the vitamin B complex, such as polyneuritis (a manifestation of vitamin B₁ deficiency). In the diets of such patients it may be necessary to insure the presence of foods rich in the vitamin B complex, or to administer—concurrently with the nicotinic acid—thiamine hydrochloride, riboflavin, and, in some instances, pyridoxine hydrochloride.



Nicotinic acid is pyridine-3-carboxylic acid— $C_6H_5O_2N$. It is recognized as a specific in the treatment of the disease of dogs known as blacktongue and in the treatment of human pellagra.

Available at your prescription pharmacy.

- C. T. Nicotinic Acid, 20 mg.
- C. T. Nicotinic Acid, 50 mg.
- C. T. Nicotinic Acid, 100 mg.

In bottles of 100 and 1000



THE JOURNAL

OF THE

Michigan State Medical Society

PUBLICATION COMMITTEE

WILFRID HAUGHEY, M.D., *Chairman*.....Battle Creek
OTTO O. BECK, M.D.....Birmingham
T. E. DE GURSE, M.D.....Marine City
ROY C. PERKINS, M.D.....Bay City
C. E. UMPHREY, M.D.....Detroit

Editor

ROY HERBERT HOLMES, M.D.
888 First Street, Muskegon, Michigan

Secretary and Business Manager of The Journal

L. FERNALD FOSTER, M.D.
Thorne Bldg., 919 Washington Ave.
Bay City, Michigan

Executive Secretary

WM. J. BURNS, LL.B.
2020 Olds Tower, Lansing, Michigan

All communications relative to exchanges, books for review, manuscripts, should be addressed to Roy Herbert Holmes, 888 First Street, Muskegon, Michigan.

All communications regarding advertising and subscriptions should be addressed to Wm. J. Burns, 2642 University Avenue, St. Paul, Minnesota, or 2020 Olds Tower, Lansing, Michigan. Telephone 57125.

Copyright, 1940, by Michigan State Medical Society

Entered at St. Paul, Minnesota, Postoffice as second class matter, March 12, 1913, under the Act of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 7, 1918.

PRINTED IN U. S. A.

Michigan State Medical Society

OFFICERS OF THE SOCIETY

1940-1941

President.....PAUL R. URMSTON.....Bay City
President-Elect.....HENRY R. CARSTENS.....Detroit
Secretary.....L. FERNALD FOSTER.....Bay City
Treasurer.....WM. A. HYLAND.....Grand Rapids
Editor.....ROY HERBERT HOLMES.....Muskegon
Speaker.....O. D. STRYKER.....Fremont
Vice Speaker.....JAMES J. O'MEARA.....Jackson

COUNCIL

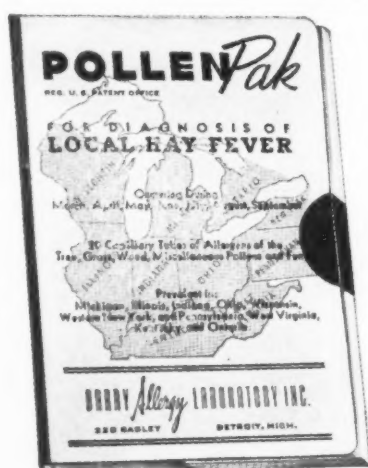
A. S. BRUNK, Chairman, Detroit
HOWARD H. CUMMINGS, Vice Chairman, Ann Arbor
L. FERNALD FOSTER, Secretary, Bay City

Term
Expires

C. E. UMPHREY.....	1st District	Detroit	.....1941
PHILIP A. RILEY.....	2nd District	Jackson	.....1944
WILFRID HAUGHEY.....	3rd District	Battle Creek	.....1944
R. J. HUBBELL.....	4th District	Kalamazoo	.....1941
VERNON M. MOORE.....	5th District	Grand Rapids	.....1941
RAY S. MORRIS.....	6th District	Flint	.....1941
T. E. DeGURSE.....	7th District	Marine City	.....1942
W. E. BARSTOW.....	8th District	St. Louis	.....1942
E. F. SLADEK.....	9th District	Traverse City	.....1942
ROY C. PERKINS.....	10th District	Bay City	.....1942
ROY H. HOLMES.....	11th District	Muskegon	.....1943
A. H. MILLER.....	12th District	Gladstone	.....1943
W. H. HURON.....	13th District	Iron Mountain	.....1943
H. H. CUMMINGS.....	14th District	Ann Arbor	.....1944
OTTO O. BECK.....	15th District	Birmingham	.....1944
A. S. BRUNK.....	16th District	Detroit	.....1944
O. D. STRYKER.....	Speaker	Fremont	.....1944

EXECUTIVE COMMITTEE OF THE COUNCIL

A. S. BRUNK.....Chairman
HOWARD H. CUMMINGS.....Vice Chairman
WILFRID HAUGHEY.....Chairman Publication Committee
VERNON M. MOORE.....Chairman Finance Committee
E. F. SLADEK.....Chairman County Societies Committee
O. D. STRYKER.....Speaker, House of Delegates
Ex-officio Members: President, President-elect, Secretary



Get a Pollen-Pak! Start Testing Your Patients Now, in Advance of HAY FEVER SEASON

You will find the Barry Allergy service completely *personalized* to give most beneficial results in the testing and treatment of your Hay Fever patients. The Barry Laboratory is devoted to exclusively *local* Hay Fever conditions. It serves the individual physician who tests and treats the specific case.

Based on your individual patient's skin test, reactions and personal history, the Barry Laboratory fills a specific prescription. This pollen de-

sensitization set contains only those irritants to which your individual patient reacts in the exact combination and concentration as proportionately indicated.

Barry Pollen-Pak contains the most prevalent Hay Fever irritants in your territory. You will receive a renewal agreement with each initial Pollen-Pak order. This agreement assures you of a free Pollen-Pak each time you require an individual prescription set.

BARRY ALLERGY LABORATORIES

220 Bagley, Detroit, Mich.

Please send me complete details and literature on Barry's Pollen-Pak Contract and the Barry individual prescription service.

My surgical supply house is.....

Name.....M.D.

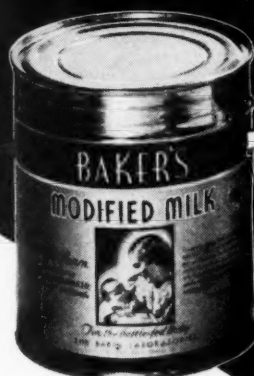
Address.....

City.....State.....

TO HELP BUILD STRONG, HEALTHY BABIES



You can prescribe
BAKER'S
MODIFIED MILK
with
Confidence



POWDER



LIQUID

OTHER BAKER PRODUCTS



MELCOSE

Liquid only

A specially prepared infant food consisting of tuberculin-tested cows' milk in which the fat has been replaced by vegetable and cod liver oils, modified by the addition of dextrin, maltose, dextrose and iron ammonium citrate. For general infant feeding, both as a supplement to and in place of breast milk, at birth and throughout the bottle-feeding period. A low cost milk diet, completely prepared. Write for literature.



MELODEX

A mixture of maltose and dextrans prepared by enzyme hydrolysis of cereal starch. (An easily assimilated carbohydrate, for the modification of fresh, evaporated and powdered cows' milk for infant feeding.) MELODEX is easily digested and readily absorbed. It permits a wide range of flexibility in the modification of cows' milk, and may be given in liberal amounts without producing intestinal disturbances in normal babies. Valuable for increasing the caloric content and improving the flavor of fresh whole milk for undernourished children, nursing mothers and convalescents. Very economical. Three formulas—A. B. C.

LIBERAL PROTEIN CONTENT HELPS BUILD FIRM TISSUE

Full requirement of carbohydrate—lactose and dextrose. Butterfat largely replaced by animal and vegetable oils.

NOT LESS THAN

400 units of vitamin D per quart.
Four times as much iron as in cows' milk.

BAKER'S MODIFIED MILK is a powder and liquid modified milk product especially prepared for infant feeding; made from tuberculin-tested cows' milk in which most of the fat has been replaced by animal, vegetable and cod liver oils, together with lactose, dextrose, gelatin, Vitamin B Complex (wheat germ extract, fortified with thiamin), and iron ammonium citrate, U.S.P.

Used for both premature and full-term infants with or entirely in place of breast milk at birth and throughout the bottle-feeding period. Both the liquid and powder form, when prepared and diluted to normal strength, have the same analysis and can be fed interchangeably. Baker's MODIFIED MILK is easy to use (dilute to proper feeding strength with cool water, previously boiled). Feeding instructions supplied to physicians only. Advertised only to the medical profession.

Write today for full information

The BAKER LABORATORIES

CLEVELAND, OHIO

Michigan State Medical Society

OFFICERS OF SECTIONS

General Medicine

T. I. Bauer, *Chairman*.....Lansing
Gordon B. Myers, *Secretary*.....Detroit

Surgery

O. H. Gillett, *Chairman*.....Grand Rapids
Roger V. Walker, *Secretary*.....Detroit

Gynecology and Obstetrics

Clair E. Folsome, *Chairman*.....Ann Arbor
Robert Kennedy, *Secretary*.....Detroit

Ophthalmology and Otolaryngology

Robert H. Fraser, *Chairman*.....Battle Creek
A. S. Barr, *Vice Chairman*.....Ann Arbor
Robert G. Laird, *Secretary*.....Grand Rapids
Arthur E. Hammond, *Vice Secy*.....Detroit

Pediatrics

Harry A. Towsley, *Chairman*.....Ann Arbor
Leon DeVel, *Secretary*.....Grand Rapids

Dermatology and Syphilology

Claud Behn, *Chairman*.....Detroit
Frank Stiles, *Secretary*.....Lansing

Radiology, Pathology and Anesthesia

F. W. Hartman, *Chairman* (Path.)...
Detroit
Clyde K. Hasley, *Secretary* (Rad.)...
Detroit
Frank Murphy, *Secretary* (Anes.)...
Detroit

COMMITTEE PERSONNEL

Legislative

H. A. Miller, *Chairman*.....Lansing
A. S. Brunk.....Detroit
Henry R. Carstens.....Detroit
H. H. Cummings.....Ann Arbor
Lawrence A. Drolett.....Lansing
T. K. Gruber.....Eloise
S. L. Loupee.....Dowagiac
G. L. McClellan.....Detroit
Harold Morris.....Detroit
E. W. Schnoor.....Grand Rapids

Distribution of Medical Care

T. S. Conover, *Chairman*.....Flint
A. F. Bliesmer.....St. Joseph
H. O. Brush.....Port Huron
A. C. Henthorn.....St. Johns
R. F. Salot.....Mt. Clemens
G. B. Saltonstall.....Charlevoix
H. B. Zemmer.....Lapeer

Medical-Legal

S. W. Donaldson, *Chairman*.....Ann Arbor
T. E. Hoffman.....Vassar
Wm. J. Stapleton, Jr.....Detroit
Bert Van Ark.....Eaton Rapids
E. A. Wittwer.....Bay City

Representatives to Joint Committee on Health Education*

Burton R. Corbus, *Chairman* (3)....
Grand Rapids
C. T. Ekelund (1).....Pontiac
L. Fernald Foster (1).....Bay City
Henry A. Luce (2).....Detroit
W. R. Vaughan (2).....Plainwell

Preventive Medicine

Wm. S. Reveno, *Chairman*.....Detroit
J. D. Bruce.....Ann Arbor
Henry Cook.....Flint
Burton R. Corbus.....Grand Rapids
Wm. A. Hyland.....Grand Rapids
M. R. Kinde.....Battle Creek
Henry A. Luce.....Detroit
R. J. Mason.....Birmingham
H. Allen Moyer.....Lansing
H. H. Riecker.....Ann Arbor
W. F. Seeley.....Detroit
Frank Van Schoick.....Jackson
C. K. Valade.....Detroit

Postgraduate Medical Education*

J. D. Bruce, *Chairman* (2).....Ann Arbor
A. J. Baker (1).....Grand Rapids
A. P. Biddle (2).....Detroit
H. H. Cummings (2).....Ann Arbor
Douglas Donald (1).....Detroit
W. B. Fillingier (3).....Ovid
C. L. Hess (3).....Bay City
Henry A. Luce (2).....Detroit
W. H. Marshall (1).....Flint
Edgar H. Norris (1).....Detroit
Ralph H. Pino (1).....Detroit
Wm. E. Tew (3).....Bessemer
J. J. Walch (1).....Escanaba

Radio

R. J. Mason, *Chairman*.....Birmingham
C. L. Grant.....Manistee
A. B. Gwinn.....Hastings
R. G. Jones.....Marquette
G. C. Penberthy.....Detroit

*Figures following names indicate term of years.

Public Relations

L. Fernald Foster, *Chairman*.....Bay City
A. E. Catherwood.....Detroit
C. G. Clippert.....Grayling
H. S. Collisi.....Grand Rapids
S. W. Hartwell.....Muskegon
H. C. Hill.....Howell
L. J. Johnson.....Ann Arbor
A. H. Miller.....Gladstone
H. L. Morris.....Detroit
Fred Reed.....Three Rivers
D. R. Smith.....Iron Mountain
A. W. Strom.....Hillsdale

Ethics

H. W. Porter, *Chairman*.....Jackson
M. G. Becker.....Edmore
F. M. Doyle.....Kalamazoo
J. J. McCann.....Ionia
Allan McDonald.....Detroit

Cancer

Wm. A. Hyland, *Chairman*.....Grand Rapids
F. A. Collier.....Ann Arbor
W. G. Gamble.....Bay City
C. R. Hills.....Battle Creek
A. B. McGraw.....Detroit
Lawrence Reynolds.....Detroit
Wm. R. Torgerson.....Grand Rapids

Child Welfare

Frank Van Schoick, *Chairman*.....Jackson
W. C. Cole.....Detroit
Leon DeVel.....Grand Rapids
Campbell Harvey.....Pontiac
R. M. Kempton.....Saginaw
Edgar Martmer.....Grosse Pointe

Iodized Salt

F. B. Miner, *Chairman*.....Flint
L. W. Gerstner.....Kalamazoo
David J. Levy.....Detroit
R. D. McClure.....Detroit
H. A. Towsley.....Ann Arbor
S. Yntema.....Saginaw

Heart and Degenerative Diseases

H. H. Riecker, *Chairman*.....Ann Arbor
B. B. Bushong.....Traverse City
M. S. Chambers.....Flint
John Littig.....Kalamazoo
E. D. Spalding.....Detroit

Maternal Health

W. F. Seeley, *Chairman*.....Detroit
D. C. Bloemendaal.....Zeeland
H. A. Furlong.....Pontiac
N. F. Miller.....Ann Arbor
H. W. Wiley.....Lansing
A. M. Campbell, *Advisor*.....Grand Rapids

Mental Hygiene

Henry A. Luce, *Chairman*.....Detroit
R. G. Brain.....Flint
Esli T. Morden.....Adrian
R. W. Waggoner.....Ann Arbor
O. R. Yoder.....Ypsilanti

DELEGATES TO A.M.A.

Delegates

L. G. Christian, Lansing.....1941
Henry A. Luce, Detroit.....1942
T. K. Gruber, Eloise.....1942
Frank E. Reeder, Flint.....1942
Claude R. Keyport, Grayling.....1942

Alternate Delegates

G. J. Curry, Flint.....1941
R. H. Pino, Detroit.....1941
Carl F. Snapp, Grand Rapids.....1942
C. S. Gorsline, Battle Creek.....1942
R. H. Denham, Grand Rapids.....1942

Syphilis Control

*C. K. Valade, *Chairman*.....Detroit
R. S. Breakey.....Lansing
J. W. Rice.....Sturgis
H. R. Roehm.....Birmingham
L. W. Shaffer.....Detroit
A. R. Woodburne.....Grand Rapids

Industrial Health

Henry Cook, *Chairman*.....Flint
Norman H. Amos.....Battle Creek
D. C. Denman.....Monroe
H. H. Gay.....Midland
C. D. Selby.....Detroit
Geo. Van Rhee.....Detroit

Tuberculosis Control

M. R. Kinde, *Chairman*.....Battle Creek
John Barnwell.....Ann Arbor
L. E. Holly.....Muskegon
W. L. Howard.....Battle Creek
Willard B. Howes.....Detroit
Bruce H. Douglas, *Advisor*.....Detroit

Advisory to Woman's Auxiliary

R. C. Jamieson, *Chairman*.....Detroit
C. W. Brainard.....Battle Creek
L. C. Harvie.....Saginaw
Wm. S. Jones.....Menominee
Edwin Terwilliger.....South Haven

Medical Preparedness

Burton R. Corbus, *Chairman*.....
Grand Rapids
F. G. Buesser.....Detroit
L. Fernald Foster.....Bay City
H. H. Riecker.....Ann Arbor
A. B. Smith.....Grand Rapids
P. R. Urmston.....Bay City

Representatives to the Conference Committee on Precicensure

Medical Education

Burton R. Corbus, *Chairman*.....
Grand Rapids
L. Fernald Foster.....Bay City
J. M. Robb.....Detroit

Scientific Work

L. Fernald Foster, *Chairman*.....Bay City
A. S. Barr.....Ann Arbor
T. I. Bauer.....Lansing
Claud Behn.....Detroit
Leon DeVel.....Grand Rapids
Clair E. Folsome.....Ann Arbor
Robert H. Fraser.....Battle Creek
O. H. Gillett.....Grand Rapids
Arthur E. Hammond.....Detroit
F. W. Hartman.....Detroit
C. K. Hasley.....Detroit
Robert Kennedy.....Detroit
Robert G. Laird.....Grand Rapids
Frank Murphy.....Detroit
Gordon B. Myers.....Detroit
Frank Stiles.....Lansing
Harry A. Towsley.....Ann Arbor
Roger V. Walker.....Detroit

*Deceased March 26, 1941.

A Reminder from Borden about

SOUND INFANT NUTRITION



IN BIOLAC—the *liquid* modified milk for infants—sound nutrition and ease of digestion are assured by four key principles.

1. Fat Adjustment—fat is reduced to a moderate, more readily assimilable level than is found in regular fluid or evaporated milk. Biolac is homogenized to provide small, readily-digestible fat droplets.

2. Protein Adjustment—protein is maintained at higher level than in breast milk to compensate for biological difference of cow's milk protein, and to provide amply for the greater needs in early months when growth is fastest.

3. Carbohydrate Adjustment—as in breast milk, carbohydrate for the growing young is provided solely by lactose, and in Nature's own equilibrium of 60% beta, 40% alpha lactose.

4. Vitamin and Iron Adjustment—vitamins A, B₁, D, and iron are provided at recognized prophylactic levels, making their ingestion automatic and certain.

Needing only simple dilution with boiled water, Biolac assures a sterile formula—even including the carbohydrate. It is sold only in drug stores; no feeding directions are given to the laity.

- Please enclose professional card or letterhead when requesting literature or samples. The Borden Co., 350 Madison Avenue, New York City.



Borden's BIOLAC

A BORDEN PRESCRIPTION PRODUCT



APRIL, 1941

Say you saw it in the *Journal of the Michigan State Medical Society*

245

County Societies

Branches of the Michigan State Medical Society

Allegan R. J. Walker, President.....Saugatuck E. B. Johnson, Secretary.....Allegan	Luce Wm. R. Purmort, President.....Newberry R. E. Gibson, Secretary.....Newberry
Alpena H. J. Burkholder, President.....Alpena Harold Kessler, Secretary.....Alpena	Macomb R. F. Salot, President.....Mt. Clemens D. Bruce Wiley, Secretary.....Utica
Barry C. A. E. Lund, President.....Middleville A. B. Gwinn, Secretary.....Hastings	Manistee E. B. Miller, President.....Manistee C. L. Grant, Secretary.....Manistee
Bay-Arenac-Iosco R. N. Sherman, President.....Bay City L. Fernald Foster, Secretary.....Bay City	Marquette-Alger F. A. Fennig, President.....Marquette D. P. Hornbogen, Secretary.....Marquette
Berrien A. F. Bliesmer, President.....St. Joseph Richard Crowell, Secretary.....St. Joseph	Mason Robert Farrier, President.....Ludington Ivan L. Hunt, Secretary.....Scottville
Branch F. I. Phillips, President.....Bronson H. R. Mooi, Secretary.....Union City	Mecosta-Osceola V. J. McGrath, President.....Reed City Glenn Grieve, Secretary.....Big Rapids
Calhoun Harry F. Becker, President.....Battle Creek Wilfrid Haughey, Secretary.....Battle Creek	Medical Society of North Central Counties (Osego-Montmorency-Crawford-Oscoda-Roscommon-Ogemaw-Gladwin-Kalkaska) Stanley A. Stealy, President.....Grayling C. G. Clippert, Secretary.....Grayling
Cass Geo. Loupee, President.....Dowagiac John K. Hickman, Secretary.....Dowagiac	Menominee H. T. Sethney, President.....Menominee Wm. S. Jones, Secretary.....Menominee
Chippewa-Mackinac B. T. Montgomery, President.....Sault Ste. Marie L. J. Hakala, Secretary.....Sault Ste. Marie	Midland Melvin Pike, President.....Midland H. H. Gay, Secretary.....Midland
Clinton Dean W. Hart, President.....St. Johns T. Y. Ho, Secretary.....St. Johns	Monroe Vincent L. Barker, President.....Monroe Florence Ames, Secretary.....Monroe
Delta-Schoolcraft N. J. Frenn, President.....Bark River A. C. Bachus, Secretary.....Powers	Muskegon Roy Herbert Holmes, President.....Muskegon Leland E. Holly, Secretary.....Muskegon
Dickinson-Iron R. E. White, President.....Stambaugh E. B. Andersen, Secretary.....Iron Mountain	Newaygo B. F. Gordon, President.....Newaygo W. H. Barnum, Secretary.....Fremont
Eaton Bert Van Ark, President.....Eaton Rapids B. P. Brown, Secretary.....Charlotte	Northern Mich. (Antrim-Charlevoix-Emmet-Cheboygan) G. B. Saltonstall, President.....Charlevoix A. F. Litzenburger, Secretary.....Boyne City
Genesee Clifford W. Colwell, President.....Flint John S. Wyman, Secretary.....Flint	Oakland Leon F. Cobb, President.....Pontiac John S. Lambie, Secretary.....Birmingham
Gogebic W. E. Tew, President.....Bessemer F. L. S. Reynolds, Secretary.....Ironwood	Oceana Charles Flint, President.....Hart W. Gordon Robinson, Secretary.....Hart
Grand-Traverse-Leelanau-Benzie James W. Gauntlett, President.....Traverse City I. H. Zielke, Secretary.....Traverse City	Ontonagon J. L. Bender, President.....Mass R. J. Shale, Secretary.....Ontonagon
Gratiot-Isabella-Clare R. L. Waggoner, President.....St. Louis E. S. Oldham, Secretary.....Breckenridge	Ottawa C. E. Long, President.....Grand Haven D. C. Bloemendaal, Secretary.....Zeeland
Hillsdale H. F. Mattson, President.....Hillsdale A. W. Strom, Secretary.....Hillsdale	Saginaw L. A. Campbell, President.....Saginaw R. S. Ryan, Secretary.....Saginaw
Houghton-Baraga-Keweenaw A. C. Roche, President.....Calumet Paul Sloan, Secretary.....Houghton	Sanilac H. H. Learmont, President.....Croswell E. W. Blanchard, Secretary.....Deckerville
Huron J. Bates Henderson, President.....Pigeon Roy R. Gettel, Secretary.....Kinde	Shiawassee Walter S. Shepherd, President.....Owosso Richard J. Brown, Secretary.....Owosso
Ingham Harold W. Wiley, President.....Lansing R. J. Himmelberger, Secretary.....Lansing	St. Clair W. H. Boughner, President.....Algonac Jacob H. Burley, Secretary.....Port Huron
Ionia-Montcalm L. L. Marston, President.....Lakeview John J. McCann, Secretary.....Ionia	St. Joseph John Sheldon, President.....Sturgis John W. Rice, Secretary.....Sturgis
Jackson A. M. Shaeffer, President.....Jackson H. W. Porter, Secretary.....Jackson	Tuscola W. P. Petrie, President.....Caro W. W. Dickerson, Secretary.....Wahjamega
Kalamazoo Charles L. Bennett, President.....Kalamazoo Hazel R. Prentice, Secretary.....Kalamazoo	Van Buren Edwin Terwilliger, President.....South Haven J. W. Iseman, Secretary.....Paw Paw
Kent P. L. Thompson, President.....Grand Rapids Frank L. Doran, Secretary.....Grand Rapids	Washtenaw Wm. M. Brace, President.....Ann Arbor R. K. Ratliff, Secretary.....Ann Arbor
Lapeer D. J. O'Brien, President.....Lapeer H. M. Best, Secretary.....Lapeer	Wayne Allan McDonald, President.....Detroit Gaylord S. Bates, Secretary.....Detroit
Lenawee Bernard Patmos, President.....Adrian Esli T. Morden, Secretary.....Adrian	Wexford-Missaukee E. McManus, President.....Mesick B. A. Holm, Secretary.....Cadillac
Livingston H. G. Huntington, President.....Howell Harold C. Hill, Secretary.....Howell	

ENZYMOL

A Physiological Surgical Solvent

Prepared Directly From the Fresh Gastric Mucous Membrane

ENZYMOL proves of special service in the treatment of pus cases.

ENZYMOL resolves necrotic tissue, exerts a reparative action, dissipates foul odors; a physiological, enzymic surface action. It does not invade healthy tissue; does not damage the skin. It is made ready for use, simply by the addition of water.

These are some notes of clinical application during many years:

Abscess cavities
Antrum operation
Sinus cases
Corneal ulcer

Carbuncle
Rectal fistula
Diabetic gangrene
After removal of tonsils

After tooth extraction
Cleansing mastoid
Middle ear
Cervicitis

Originated and Made by

Fairchild Bros. & Foster

New York, N.Y.

Descriptive Literature Gladly Sent on Request.



Essential to Many a Diagnosis

In countless conditions, the availability of a clear x-ray or fluoroscope image is a necessity for accurate diagnosis.

The suspicious chest, the "sprain," the fracture, and many similar ailments often require visualization before proper therapy can be outlined.

THE BURDICK PX-2 X-RAY AND FLUOROSCOPE

provides clear visibility at low cost. It is simple to operate, flexible and shock-proof. Don't fail to inquire about this new unit. The coupon will bring you full information.

THE G. A. INGRAM CO.
4444 Woodward Avenue Detroit, Mich.

Burdick X-RAY AND
PX-2 FLUOROSCOPE

The G. A. INGRAM CO., 4444 Woodward Avenue, Detroit, Michigan.

I am interested in further information on the Burdick PX-2 X-Ray and Fluoroscope.

Dr.
Address
City State

COUNTY MEDICAL SOCIETY MEETINGS

Bay—Wednesday, March 12—Bay City—Speaker: Charles Johnston, M.D., Detroit—Subject: "The Stomach Tube."

Berrien—Thursday, March 20—St. Joseph—Speaker: Aaron Arking, M.D., Chicago—Subject: "Gall-Bladder Diseases and Gastric Symptoms."

Calhoun—Tuesday, March 4—Battle Creek—Speaker: Horace Newhart, M.D., Minneapolis—Subject: "Conservation of Hearing."

Dickinson-Iron—Thursday, March 6—Iron Mountain—Speaker: Dr. Browning.

Ingham—Tuesday, March 18—Lansing—Speaker: A. C. Corcoran, M.D., Indianapolis—Subject "Recent Advances in the Understanding of Hypertension."

Jackson—Tuesday, March 18—Jackson—Speaker: Frederick A. Collier, M.D., Ann Arbor—Subject: "The Treatment of Wounds."

Kalamazoo—Tuesday, March 18—Kalamazoo—Speaker: Roger Siddall, M.D., Detroit—Subject: "Dystocia Due to Uterine Inertia."

Kent—Tuesday, March 11—Grand Rapids—Speaker: Charles F. McKhann, M.D., Ann Arbor—Subject: "Vomiting and Diarrhea in Infancy and Childhood."

Muskegon—Wednesday, March 19—Muskegon—Banquet in coöperation with the Chamber of Commerce; the Muskegon County Dental Society and the Muskegon Rotary Club honoring George L. LeFevre, M.D., on his Fiftieth Graduation Anniversary.

Oakland—Wednesday, March 5—Rotunda Inn—Speaker: Grover C. Penberthy, M.D., Detroit—Subject: "Recent Advances in Traumatic Surgery."

Shiawassee—Thursday, March 20—Owosso—The meeting was in honor of A. M. Hume, M.D., of Owosso and C. A. Crane, M.D., of Corunna.

St. Clair—Tuesday, March 11—Port Huron—Speaker: Wm. J. Stapleton, M.D., Detroit—Joint Meeting of Lawyers, Dentists and Doctors of Medicine.

Washtenaw—Tuesday, March 11—Ann Arbor—Program on "The Emergency Treatment of Trauma"—Speakers: E. T. Thieme, M.D., H. D. Barss, M.D., E. A. Kahn, M.D., C. Haight, M.D., and H. K. Ransom, M.D.

Wayne—Monday, April 14—Detroit—Medical Section meeting—Speaker: Irvine H. Page, M.D., Indianapolis—Subject: "The Nature and Treatment of Hypertension."

Monday, April 21—Detroit—General Practice Meeting—Joint meeting with Detroit Bar Association.

Monday, April 28—Detroit—Annual Glee Club Concert.

West Side (Detroit)—Thursday, March 13—Detroit—Joint meeting with East Side Medical Society—Speakers: Roy D. McClure, M.D., Detroit; and George Myers, M.D., followed by a general discussion on Medical Economics.

* * *

NEW COUNTY SOCIETY OFFICERS

Menominee

President—Henry T. Sethney, M.D., Menominee
President-Elect—J. T. Kaye, M.D., Menominee
Secretary-Treasurer—Wm. S. Jones, M.D., Menominee
Delegate—H. T. Sethney, M.D., Menominee
Alternate Delegate—S. C. Mason, M.D., Menominee

Midland

President—Melvin Pike, M.D., Midland
Secretary-Treasurer—Harold H. Gay, M.D., Midland
Delegate—Edward Meisel, M.D., Midland

Newaygo

President—B. F. Gordon, M.D., Newaygo
President-Elect—Louis Geerling, M.D., Fremont
Secretary-Treasurer—W. H. Barnum, M.D., Fremont
Delegate—O. D. Stryker, M.D., Fremont
Alternate Delegate—W. H. Barnum, M.D., Fremont

Saginaw

President—Lloyd A. Campbell, M.D., Saginaw
President-Elect—A. C. Button, M.D., Saginaw
Secretary-Treasurer—Richard Ryan, M.D., Saginaw

Van Buren

President—Edwin Terwilliger, M.D., South Haven
President-Elect—W. R. Young, M.D., Lawton
Secretary—J. W. Iseman, M.D., Paw Paw
Treasurer—A. H. Steele, M.D., Paw Paw
Delegate—W. R. Young, M.D., Lawton
Alternate Delegate—Edwin Terwilliger, South Haven

* * *

COUNCIL AND COMMITTEE MEETINGS

1. *Sunday, March 2*—3:00 p. m.—Executive Committee of The Council—Hotel Olds, Lansing.
2. *Thursday, March 6*—5:00 p. m.—Representatives of Groups Interested in Afflicted Child legislation—Hotel Statler, Detroit.
3. *Thursday, March 6*—6:00 p. m.—Syphilis Control Committee—Hotel Statler, Detroit.
4. *Thursday, March 6*—6:00 p. m.—Cancer Committee—Woman's League Building, Ann Arbor.
5. *Thursday, March 20*—3:00 p. m.—Legislative Committee—Hotel Olds, Lansing.
6. *Friday, March 21*—12:00 noon—Maternal Health Committee—Hotel Statler, Detroit.
7. *Thursday, April 3*—3:00 p. m.—Executive Committee of The Council, Hotel Olds, Lansing.

JOUR. M.S.M.S.

Cook County Graduate School of Medicine

(In Affiliation with Cook County Hospital)

Incorporated not for profit

ANNOUNCES CONTINUOUS COURSES

SURGERY—Two Weeks Intensive Course in Surgical Technique with practice on living tissue, starting every two weeks. General Courses One, Two, Three and Six Months; Clinical Courses; Special Courses. Rectal Surgery every week.

MEDICINE—Two Weeks Intensive Course starting June 2. One Month Course in Electrocardiography & Heart Disease every month, except August and December.

FRACTURES & TRAUMATIC SURGERY—Two Weeks Intensive Course starting May 19 and June 30. Informal Course every week.

GYNECOLOGY—Two Weeks Intensive Course starting June 16. Clinical, Diagnostic and Didactic Course every week.

OBSTETRICS—Two Weeks Intensive Course starting April 21. Three Weeks Personal Course starting May 26. Informal Course every week.

OTOLARYNGOLOGY—Two Weeks Intensive Course starting April 7. Informal and Personal Courses every week.

ROENTGENOLOGY—Courses in X-Ray Interpretation, Fluoroscopy, Deep X-Ray Therapy every week.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties.

TEACHING FACULTY—ATTENDING
STAFF OF COOK COUNTY HOSPITAL

Address:

Registrar, 427 South Honore St., Chicago, Illinois

TO HELP EDUCATE THE AMERICAN PUBLIC *about* THE IMPORTANCE OF POSTURE TO HEALTH

*S. H. Camp & Company
announces 3rd Annual*



In announcing 1941 National Posture Week we do so with a genuine expression of appreciation to the medical profession, public health groups, schools, and colleges throughout the country whose support of this activity has helped to make it an educational event of importance. We are happy in the knowledge that with each succeeding year, National Posture Week has resulted in more women being made conscious of the relationship of posture to health, as well as the importance of seeking professional advice regarding the ills caused by poor posture.

This year, as in the past, National Posture Week will be given widespread publicity through magazines, newspapers, and radio. In addition, non-commercial literature will be distributed to schools and colleges as an extension of our Public Health Educational Activities.

Many of our dealers throughout the country will also cooperate to help awaken the consciousness of the masses to the importance of correct posture. As always, we will endeavor to adhere to the ethical practices which will merit your approval.

CAMP *Supports*
TRADE MARK

S. H. Camp & Company, Jackson, Michigan

Offices in: New York; Chicago; Windsor, Ont.; London, England. *World's largest manufacturers of surgical supports*

APRIL, 1941

249

Say you saw it in the Journal of the Michigan State Medical Society

MICHIGAN MEDICAL SERVICE

Groups Enrolled in Michigan Medical Service

There have been many requests for an indication of the groups of subscribers to Michigan Medical Service. The following is a listing of the groups according to location of the main office in the county medical society area. Some groups such as the Michigan State Highway Department, the Unemployment Compensation Commission, the Rural Letter Carriers

Association, and the State Board of Tax Administration, have subscribers throughout the entire state.

The groups that are enrolled in the Medical Service Plan are indicated by an asterisk (*) and the other groups not so indicated are enrolled in the Surgical Benefit Plan. During the first year, 316 groups were enrolled—44 in the Medical Service Plan and 272 in the Surgical Benefit Plan.

County Society	Group Enrolled	Location
Bay-Arenac-Iosco-Gladwin	Bay City Bank	Bay City
	*Bay City Community Chest	Bay City
	Bay City Times	Bay City
	McMorris Chevrolet	Bay City
	National Gypsum Company	National City
	Northern Automotive Supply	Bay City
Berrien	Benton Harbor Public Schools	Benton Harbor
	Cooper, Wells & Co.	St. Joseph
	*Niles Lumber Company	Niles
	St. Joseph Public Schools	St. Joseph
	Watervliet Public Schools	Watervliet
	F. W. Woolworth Co.	Benton Harbor
Branch	*Quincy Lumber Company	Quincy
Calhoun	Battle Creek Board of Education	Battle Creek
	Battle Creek Coca-Cola Bottling Co.	Battle Creek
	Battle Creek Dog Food Company	Battle Creek
	R. Binder Co.	Battle Creek
	Gale Manufacturing Company	Albion
	Loneragan Manufacturing Company	Albion
	Parker Inn	Albion
	J. C. Penney Company	Battle Creek
	Shaw Printing & Lithographing Company	Battle Creek
	V. C. Squier Company	Battle Creek
Cass	*Cass County Lumber & Coal Company	Cassopolis
	*Edwardsburg Lumber Company	Edwardsburg
	*Marcellus Lumber Company	Marcellus
	*Vandalia Lumber & Coal Co.	Vandalia
Chippewa-Mackinac	Northwestern Leather Company	Sault Ste. Marie
	Ojibway Hotel	Sault Ste. Marie
	Sault News Printing Company	Sault Ste. Marie
	Scott Stores, Inc.	Sault Ste. Marie
	Soo Woolen Mills	Sault Ste. Marie
	*United States Post Office	Sault Ste. Marie
Delta-Schoolcraft	U. S. Department of Agriculture	Escanaba
Gratiot-Isabella-Clare	Fulton Township Public Schools	Middleton
Hillsdale	Hillsdale Community Health Center	Hillsdale
Houghton-Baraga-Keewenaw	Houghton County Department of Social Welfare	Hancock
Ingham	Carrier-Stephens Company	Lansing
	Civilian Conservation Corps	Lansing
	College Drug	East Lansing
	Dean & Harris Ford Sales	Lansing
	Federal Drop Forge	Lansing
	The John Henry Company	Lansing
	*Michigan Millers Mutual Fire Insurance	Lansing
	Michigan, State of	Lansing
	Administrative Board	
	Board of Tax Administration	
	Department of Public Instruction	
	Electrical Administration Board	
	*Highway Department	
	Land Office Board	
	Library	
	School for the Blind	
	Social Security Board	
	Supreme Court	
	Unemployment Compensation Commission	
	United Automobile Workers Locals	Lansing
Jackson	Jackson Citizen Patriot	Jackson
	Symons Brothers	Jackson
Kalamazoo	Allen Electric & Equipment Co.	Kalamazoo
	American Cyanamid & Chemical Co.	Kalamazoo
	Birmingham & Prosser Co.	Kalamazoo
	Electric Construction & Machinery Co.	Kalamazoo
	W. T. Grant Company	Kalamazoo
	Imperial Beverage Company	Kalamazoo
	Kalamazoo Board of Education	Kalamazoo
	Kalamazoo College	Kalamazoo

(Continued on Page 252)

DOCTOR, Meet a Neighbor of Yours!



He, too, is a specialist in his particular field — capable and trustworthy.

Like yourself, he is a local homeowner and taxpayer, interested in the welfare and development of your community. You both patronize the same merchants, have mutual friends, know local conditions.

THIS man is a specialist in collection procedure—one of 550 in the United States and Canada, members of the Collection Service Division—well equipped to render tactful, efficient collection service on your past due accounts. Invite the collection specialist in your community to call on you and explain his services.

COLLECTION SERVICE DIVISION

ASSOCIATED CREDIT BUREAUS OF AMERICA INCORPORATED

ST. LOUIS, MO.

MEMBERS in the



Allegan..... Merchants Service Bureau
Alma..... Gratiot County Credit Bureau
Ann Arbor..... Ann Arbor Credit Bureau
Battle Creek..... Collection Service Bureau
Bay City..... Retail Merchants Credit Bureau
Benton Harbor..... The Merchants Credit Bureau, Inc.
Big Rapids..... Merchants Service Bureau
Birmingham..... Birmingham Credit Bureau, Inc.
Caro..... Retail Merchants Credit Bureau
Detroit..... Merchants Credit Bureau, Inc.
Flint..... Collection Service Bureau
Grand Rapids..... Merchants Service Bureau
Hastings..... Business Credit Bureaus, Inc.
Holland..... Merchants' Service Bureau
Howell..... Business Credit Bureaus, Inc.
Jackson..... Jackson Credit Exchange
Kalamazoo..... Milham Mercantile Agency
Lansing..... Lansing Credit Exchange

STATE of MICHIGAN

Lansing..... Kirby Mercantile Agency
Lapeer..... Lapeer Credit Bureau
Marquette..... Oliver Adjustment Company
Midland..... Retail Merchants Credit Bureau
Monroe..... Monroe Credit Rating Bureau
Mount Clemens..... Mount Clemens Credit Bureau, Inc.
Mount Pleasant..... Isabella County Credit Bureau
Muskegon..... Paramount Collection Service
Muskegon..... Muskegon Adjustment Bureau
Plymouth..... Merchants Service Bureau
Pontiac..... Pontiac Credit Bureau, Inc.
Port Huron..... Port Huron Credit Bureau
Royal Oak..... Royal Oak Credit Bureau
Saginaw..... Collection Service Bureau
South Haven..... South Haven Credit Exchange
Sturgis..... Sturgis Credit Bureau
Ypsilanti..... Mr. Foster Fletcher

County Society	Group Enrolled	Location
Kalamazoo (Continued)	Kalamazoo Gazette Nazareth College Vermeulen Furniture Co. *Vicksburg Lumber Company	Kalamazoo Nazareth Kalamazoo Vicksburg
Kent	Apex Appliance Company B. & B. Frame Company *Equitable Life Insurance of Iowa Grand Rapids Blow Pipe & Dust Arrester Grand Rapids Press West-Dempster *Williams & Works	Grand Rapids Grand Rapids Grand Rapids Grand Rapids Grand Rapids Grand Rapids Grand Rapids
Lapeer	Almont Manufacturing Co. Hurd Lock Manufacturing Co. Lapeer Metal Products	Imlay City Almont Lapeer
Lenawee	Hawkins Lumber Company Meyer Aircraft Company *Stevenson Lumber & Coal Co.	Rollin Tecumseh Adrian
Livingston	J. Robert Crouse, Sr.	Hartland
Marquette-Alger	Guelff Printing Company Union National Bank	Marquette Marquette
Mason	Electric Tamper & Equipment Co.	Ludington
Mecosta-Osceola-Lake	Rapids Furniture Shop, Inc.	Big Rapids
Muskegon	Accuralite Company *Associated Publications Muskegon Chronicle Muskegon Heights W.P.A. Staff Stewart Hartshorn Company	Muskegon Heights Whitehall Muskegon Muskegon Heights Muskegon
Northern Michigan	William H. Maus, Inc.	Petoskey
O.M.C.O.R.O.	Producers Refining, Inc.	West Branch
Oakland	Boston Store Chase Department Store Christ Church Cranbrook City of Pontiac City of Royal Oak Crawford & Crawford DeVlieg Machine Co. *Kingswood School *Leonard Electrical Co. Oakland County Road Commission Oakland Machine Works Oldsmobile Sales & Service *Prudential Insurance Company R. B. Shops *Truckaway Corporation United Automobile Workers Locals Waldron Hotel	Pontiac Pontiac Bloomfield Hills Pontiac Royal Oak Pontiac Ferndale Pontiac Birmingham Pontiac Royal Oak Pontiac Pontiac Royal Oak Pontiac Pontiac
Oceana	Shelby Public School	Shelby
Saginaw	W. T. Grant Co. Journeyman Barbers' Union Lee & Cady Manufacturers Life Insurance Co. McLellan's Store Robertson Laundry Saginaw County Welfare Relief Commission Saginaw Dock & Terminal Company *Seeman & Peters Severence Tool Manufacturing Co. Symons Brothers Valley Sweets	Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw Saginaw
Shiawassee	Corunna Board of Education	Corunna
St. Clair	Dunn Sulphite Paper Co. W. E. Warner & Sons	Port Huron Algonac
St. Joseph	Constantine Public Schools Freeman Manufacturing Company A. H. Perfect Co. *White Pigeon Lumber Company	Constantine Sturgis Sturgis White Pigeon
Van Buren	Cookware Company of America Michigan Winery, Inc. *Paw Paw Lumber & Coal Co. *South Haven Lumber Company	Hartford Paw Paw Paw Paw South Haven
Washtenaw	Ann Arbor Buick Service Ann Arbor News Chelsea Spring Co. Cleary College *Gauss Baking Company Swift & Company University of Michigan Washtenaw Abstract Company	Ann Arbor Ann Arbor Chelsea Ypsilanti Ann Arbor Ann Arbor Ann Arbor Ann Arbor

(Continued on Page 254)



COCOMALT with other food drinks. *It is not a mechanical mixture.* All ingredients are *malted together* . . . just the vitamins being added under controlled conditions. Precision manufacture plus uniformity is assured through regular biological tests. Clinical work, also, is continuous.

Three servings of COCOMALT per day — made with milk according to directions—give you —

Vitamin A	4200 I. U.
Vitamin B ₁	360 I. U.
Vitamin D	402 I. U.
Vitamin G	488 S-B. U.
Calcium	1170 mgs.
Phosphorus	1140 mgs.
Iron	15 mgs.

COCOMALT is used by many leading physicians for undernourished children, pre- and post-operative cases, anorexia of dietary origin, anemias, pregnancy and lactation and numerous other conditions where special dietary needs are indicated.

For normal and therapeutic diets . . . for young and old . . .

COCOMALT is an energizing protective food of vitamin-mineral character. Readily digestible . . . easily assimilated . . . delicious.

R. B. DAVIS COMPANY
HOBOKEN, NEW JERSEY

Cocomalt — THE MALTED FOOD DIETONIC FOR ALL AGES

APRIL, 1941

253

Say you saw it in the Journal of the Michigan State Medical Society

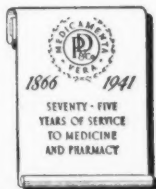
County Society	Group Enrolled	Location
Wayne	Acme Letter Service	Detroit
	Acme White Lead & Color Works	Detroit
	*Acoustical & Specialties Contracting Co.	Detroit
	*Allen Industries (Office)	Detroit
	W. G. Anderson Sales Co.	Detroit
	Berghoff-Detroit Printing	Detroit
	Booth Newspapers	Detroit
	Borden's Farm Products	Detroit
	Borden's Ice Cream Co.	Detroit
	Bower Roller Bearing	Detroit
	Judson Bradway	Detroit
	Lewis F. Brown, Inc.	Detroit
	*Buckner Finance Company	Detroit
	*Buell Die & Machine Company	Detroit
	Buhl Stamping Company	Detroit
	Burroughs Adding Machine Co.	Detroit
	*Central Fibre Products	Detroit
	*Central Ohio Paper Co.	Detroit
	Champion Spark Plug	Detroit
	Chicago Pneumatic Tool	Detroit
	J. S. Clark & Co.	Detroit
	Cogsdill Twist Drill Co.	Detroit
	Colaid Service	Detroit
	Frederick Colman & Sons	Detroit
	Contract & Investment Co.	Detroit
	Coöperative Theatres of Michigan, Inc.	Detroit
	Copper & Brass Sales, Inc.	Detroit
	Curtis Publishing Company	Detroit
	The Detroit Bank	Detroit
	*Detroit Creamery Co.	Detroit
	Detroit Lubricator Co.	Detroit
	Detroit Steel Products	Detroit
	Detroit Symphony Society	Detroit
	Detroit Trust Company	Detroit
	Differential Wheel Corp.	Detroit
	F. W. Dodge	Detroit
	Dominion Life Assurance Co.	Detroit
	Eastlawn Sanitorium	Northville
	Eaton Mfg. Co. and Subsidiaries	Detroit
	Ebling Creamery	Detroit
	Edison Institute	Dearborn
	Emmert Chevrolet Co.	Detroit
	Equitable Trust Company	Detroit
	Robert Ernest & Sons Co.	Detroit
	Ernst & Ernst	Detroit
	Falls Spring & Wire	Detroit
	Famous Foods	Detroit
	Federal-Mogul	Detroit
	Federal Motor Truck Co.	Detroit
	Federal Screw Works	Detroit
	Ferro Stamping Company	Detroit
	First Mortgage Corporation	Detroit
	Ford Motor Sales Company	Detroit
	Henry Ford Trade School	Dearborn
	Henry Forster, Inc.	Detroit
	Gemmer Manufacturing Co.	Detroit
	General Electric Co. (Air Conditioning & Refrigeration)	Detroit
	J. J. Gielow & Sons	Detroit
	Gray-Kittener-Hansen Printing Co.	Detroit
	Grosse Pointe Bank	Grosse Pointe
	*Grosse Pointe Shores Village	Grosse Pointe Shores
	Gyer, Cornell & Newell	Detroit
	*Harshaw Chemical Works	Detroit
	Hawk Tool & Engineering Co.	Detroit
	*Thomas P. Henry Co.	Detroit
	Holden and Reaume	Detroit
	*Home Life Insurance Company	Detroit
	*Hooper-Holmes Bureau, Inc.	Detroit
	Howard Chevrolet	Trenton
	Hydraulic Machinery Company	Detroit
	*International Business Machines Corp.	Detroit
	F. L. Jacobs Company	Detroit
	*Mattie P. Jacobs	Detroit
	Kaplan & Stern	Detroit
	*W. J. Kennedy Dairy	Detroit
	Kerr, Lacey & Scroggie	Detroit
	Khrongold Shoe Company	Detroit
	Knight Screw Products	Detroit
	Kraft Cheese Company	Detroit
	*S. S. Kresge Company	Detroit
	Kuttenauer Manufacturing Co.	Detroit
	Lever Brothers	Detroit
	John P. Lieberman & Co.	Detroit
	Long & Long, Inc.	Detroit
	Lowrie Lumber & Supply Co.	Detroit
	*The Maccabees	Detroit
	Machine Tool & Die Co.	Detroit
	J. H. Malbin & Sons	Detroit
	Manufacturers Life Insurance Co.	Detroit
	A. J. Marshall Co.	Detroit
	Massachusetts Mutual Life Insurance Co.	Detroit
	*Maxon Brothers	Detroit
	McDonald Creamery Co.	Detroit
	*Merrill-Palmer School	Detroit
	Michigan Foundation Company	Wyandotte
	*Michigan Hospital and Medical Service	Detroit

(Continued on Page 256)

THESE NAMES, THESE YEARS HAVE HELPED MAKE MODERN MEDICAL HISTORY

One of a series of advertisements
commemorating three-quarters of a
century of progress and achievement

1879 Neisser discovers the gonococcus.
Max Nitze introduces cystoscopy.
Billings and Fletcher start *Index Medicus*.
Parke, Davis & Company introduces
chemical standardization of drug
extracts.



**PARKE, DAVIS
& COMPANY**

PIONEERS IN RESEARCH
ON MEDICINAL PRODUCTS

APRIL, 1941

Say you saw it in the *Journal of the Michigan State Medical Society*

255

County Society	Group Enrolled	Location
Wayne (Continued)	Michigan Street Car Advertising Co.	Detroit
	Micromatic Home Corporation	Detroit
	Middle West, Inc.	Detroit
	Miller Tool & Manufacturing Co.	Detroit
	Motor Products	Detroit
	Motor Tool & Manufacturing Co.	Detroit
	Murray Corporation of America	Detroit
	*Mutual Benefit Life Insurance Co.	Detroit
	National Dental Company	Detroit
	National Lithograph Company	Detroit
	Ned's Auto Supply	Detroit
	Newberry Estate	Detroit
	*New York Life Insurance Co.	Detroit
	Northwestern National Life Insurance	Detroit
	Paint Stores, Inc.	Detroit
	People's Outfitting Company	Detroit
	Pioneer Cleaners	Dearborn
	Pleasant Ridge City	Pleasant Ridge
	Producers Releasing Corp.	Detroit
	*Prudential Insurance Co.	Detroit
	Redford Cleaners	Detroit
	Refrigeration Sales Corp.	Detroit
	Revere Copper & Brass, Inc.	Detroit
	Rinshed-Mason Co.	Detroit
	Ross Operating Valve	Detroit
	Rudolph's Hair Store	Detroit
	St. Claire Tool & Die	Detroit
	Savarine Hotel	Detroit
	*Schaefer Lunch, Inc.	Detroit
	J. B. Schlotman	Grosse Pointe
	Seibert Varnish Co.	Detroit
	*Seven-Up Distributing Co.	Detroit
	Sherman Laboratory	Detroit
	Shreve, Anderson & Walker	Detroit
	F. M. Sibley Lumber Co.	Detroit
	J. F. Sinclair Coal Co.	Detroit
	Solventol Chemical Products, Inc.	Detroit
	*Southland Restaurant	Detroit
	Standard Tool & Mfg. Co.	Detroit
	Hotel Statler	Detroit
	A. F. Steiner Co.	Detroit
	B. E. Taylor Co.	Detroit
	Temprite Products Co.	Detroit
	Thos. J. Thompson & Sons	Detroit
	United Automobile Workers Locals	Detroit
	United Detroit Theatres	Detroit
	Versnick Brothers	Detroit
	Vitagraph, Inc.	Detroit
	Washington Boulevard Building	Detroit
	*Wayne County Medical Society Secretaries	Detroit
	Wentworth Heating & Engineering	Detroit
	Westward Washing Machine Co.	Detroit
	White-Haines Optical Co.	Detroit
	*Wisper & Wetman	Detroit
	Wolverine Fabricating Co.	Detroit
	Wolverine Machine Products.	Detroit
	F. W. Woolworth Co.	Detroit
	*Wright, Martin & Co.	Detroit
Wexford-Kalkaska-Missaukee	Cadillac Malleable Iron Co.	Cadillac

THE MAPLES

A Private Sanitarium for the Treatment of Alcoholism

Registered by the A.M.A.

R.F.D. 3, LIMA, OHIO

Phone: High 6447

Located 2½ Miles East of Gomer on
U. S. 30 N.

F. P. Dirlam
Superintendent

A. H. Nihizer, M.D.
Medical Director

PRESCRIBE OR DISPENSE ZEMMER

Pharmaceuticals, Tablets, Lozenges, Ampules, Capsules, Ointments,
etc. Guaranteed reliable potency. Our products are laboratory
controlled.

WRITE FOR GENERAL PRICE LIST
Chemists to the Medical Profession

MIC 4-41

Zemmer
THE ZEMMER COMPANY
OAKLAND STATION
PITTSBURGH, PA.

"...Casein Modified"

Curd of
Breast Milk



Curd of
Cow's Milk



Curd of
SIMILAC



Made from fresh skim milk
(casein modified) with added
lactose, salts, milk fat, and
vegetable and codliver oils.

In human milk $\frac{2}{3}$ of the protein is in true solution, while in cow's milk only $\frac{1}{6}$ of the protein is soluble. During the process employed in preparing Similac the soluble proteins in cow's milk are increased to a point approximating the soluble proteins in human milk. How greatly this improves the digestibility is indicated by a comparison of the curd (insoluble calcium paracaseinate) formed by cow's milk, with the soft flocculent curd of Similac. The softer the curd the shorter the digestive period.* Similac, like breast milk, has a consistently zero curd tension.

* Espe & Dye — "Effect of Curd Tension on the Digestibility of milk" — Amer. Journal Diseases of Children — 1932, Vol. 43, p. 62.

SIMILAC } SIMILAR TO BREAST MILK

M & R DIETETIC LABORATORIES, INC. • COLUMBUS, OHIO

APRIL, 1941

257

Say you saw it in the *Journal of the Michigan State Medical Society*

SELECTIVE SERVICE MEDICAL DEPARTMENT

Announcement has been made of the formation of three additional Medical Advisory Boards in Detroit. With the five Medical Advisory Boards already formed, eight boards will be available to serve the Wayne County area. The new boards with their hospital headquarters and chairman are as follows:

Board No. 20—Grace Hospital—Milton A. Darling, M.D.

Board No. 21—Woman's Hospital—Roy C. Kingswood, M.D.

Board No. 22—Charles Godwin Jennings Hospital—Raymond B. Baer, M.D.

Of Michigan's 679,727 registrants, 287,685 live in

Wayne County. The burden of work on five Medical Advisory Boards proved considerable. The new boards with a reshuffling of the jurisdiction of the old boards ought to materially relieve the situation. Members of the Medical Advisory Boards are not paid for their professional services. Throughout the state these Medical Advisory Boards have been doing an excellent job advising the Examining Physicians on the doubtful cases among the selectees.

* * *

The physicians in Michigan have already performed nearly 40,000 physical examinations. As the quotas of men increase, the load becomes correspondingly greater. In many localities the physicians have formed examining groups. This has been a very satisfactory procedure as it considerably lightens the load on individual physicians and prevents the congestion of small offices. The registrant is assured of a more careful consideration of his physical condition by a group of examiners. Group examinations are encouraged by the Selective Service wherever local conditions allow.

Recently a decision has come from the National Headquarters of Selective Service stating that the same physician or group of physicians may be appointed examining physician or physicians for more than one Local Board. A pool of physicians may be appointed as examining physicians for all the Local Boards within a community.

* * *

In every program there is apt to be a sour note. There have been several instances lately where the press, both in news items and editorially, has criticized physicians for their part in the rejection of men at the Induction Centers. In most cases such stories were published without any clear knowledge of the facts or what was being done to correct the situation. In a few instances doctors working for Local Boards have been mentioned by name. This, of course, rightfully created a terrific reaction among the doctors. The policy of State Headquarters has been never to release to the press any information about physicians in connection with any physical examinations. Local Boards have also been advised not to release such information.

It is also the opinion of State Headquarters that the reason for the rejection of any registrant should not be disclosed to the press. This is confidential information and the Local Board should so regard it. Unfortunately, no one can stop curious reporters from putting two and two together and producing an article that hurts. The State Headquarters has investigated several of these press notices and in each case found the press wholly unaware of the backfire on the doctor. Most of the newspapers have sought to justify the wrong done the selectees who have given up their jobs, sold their automobiles and received a gala send-off only to be turned back a day or so later stranded and humiliated. The wrong to the medical profession has been unintentional.

* * *

By March 12 the State Health Department Bureau of Laboratories had performed 39,947 Kahn tests. Of these 37,612 were negative, 71 reactions were doubtful, and 1,331 specimens were unsatisfactory. Positive Kahns totalling 933 were reported, a percentage of 2.3.

Arrangements have been completed with the Bureau of Laboratories to have Kline, Kolmer, or Wassermann reactions performed on the few cases where the Kahn test may appear to disagree with the clinical findings.

HAROLD A. FURLONG, M.D.
State Medical Officer,
Selective Service of Michigan.

JOUR. M.S.M.S.

Professional Economics

An ethical, practical plan for bettering your income from professional services.

Send card or prescription blank for details.

National Discount & Audit Co.

2114 Book Tower, Detroit, Michigan

Representatives in all parts of the United States and Canada

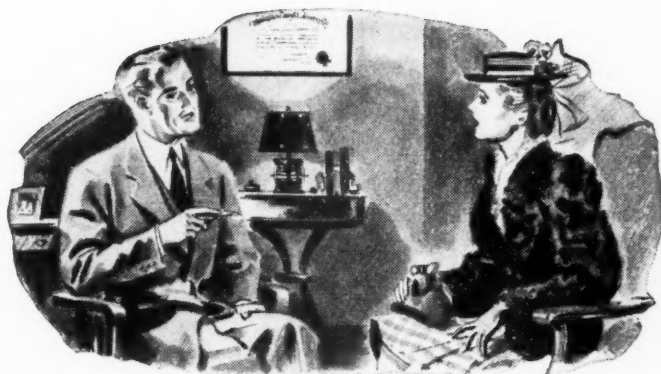
PROFESSIONAL PROTECTION



A DOCTOR SAYS:

"In the future my check stubs will show that the Medical Protective fee has gained a position of pre-eminence over rent, supply and other bills of the most fundamental importance."

THE
MEDICAL PROTECTIVE COMPANY
OF
FORT WAYNE, INDIANA



Q. But, doctor, is it all right to leave the peas I don't eat in an open can?

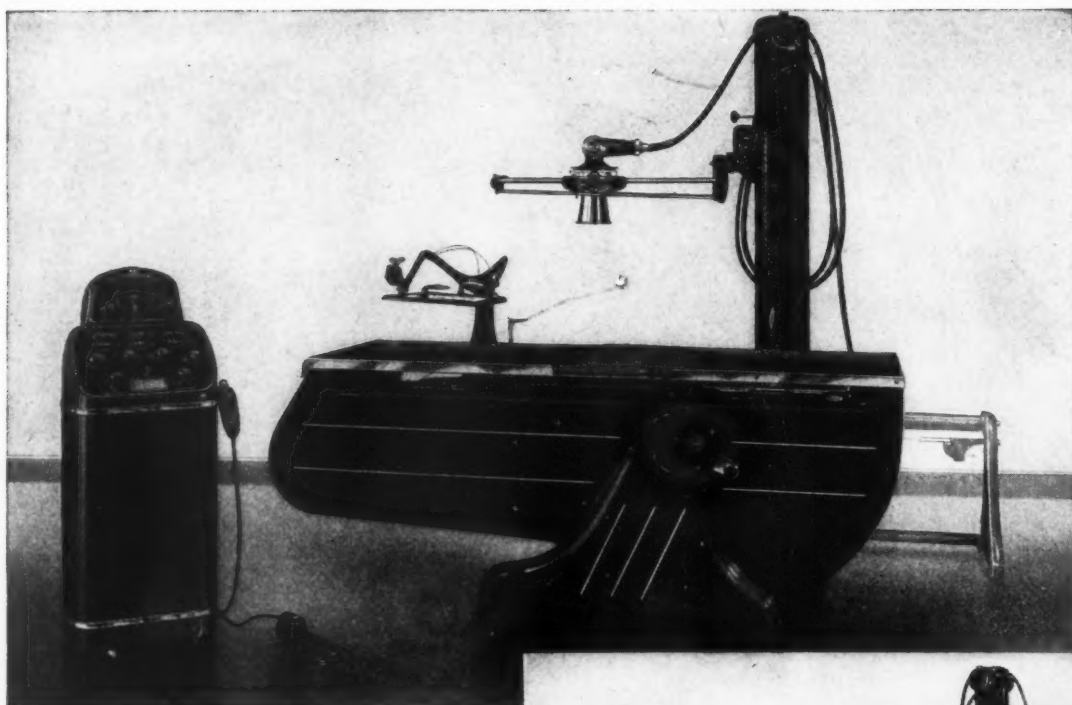
A. From the standpoint of health, there is no reason why peas, or any canned food, should be put into another container. (1)

(1) For some obscure reason many members of the general public persist in believing that an open can is not a safe food container. The U. S. Department of Agriculture expressed itself on this fallacy in a press release of February 23, 1936, as follows:

"... Thousands of housewives are firm in the faith that canned foods ought to be emptied as soon as the can is opened, or at least before the remainder of the food goes into the refrigerator... Whether in the original can or in another container, the principal precautions for keeping food are—Keep it cool and keep it covered." *American Can Company, 230 Park Avenue, New York, N. Y.*



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.



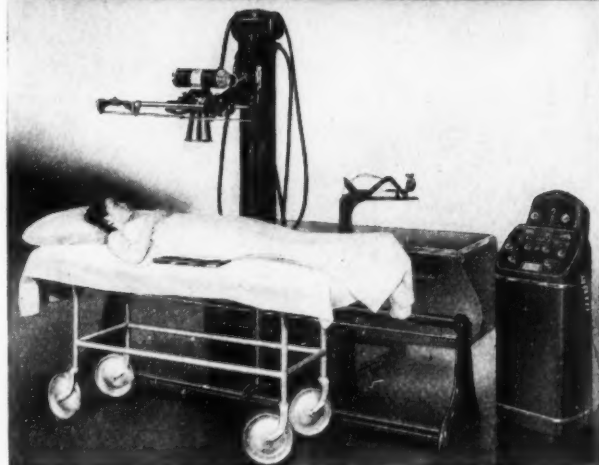
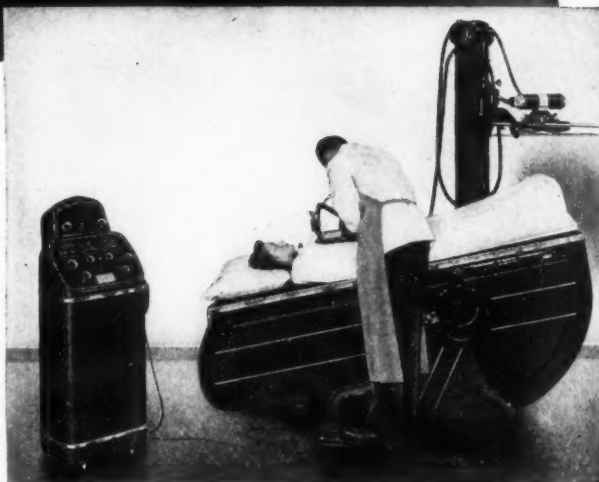
**Waite X-Ray design sets a new "HIGH"
with the "ADVANCED SERIES 200"**

In the opinion of Roentgenologists throughout the world, the "Advanced Series 200" provides far more flexibility—in every particular—than any other diagnostic x-ray equipment of current design and manufacture.

Not only has greater attention been given to ease of operation but also to comfort of the patient.

Completely shockproof... ample power... accuracy of control... automatic safety circuits for protection of the x-ray tube... longer life of x-ray tubes and valve tubes... and a minimum of maintenance, all contribute to efficient diagnostic technique.

Where professional responsibility requires the best, Roentgenologists acclaim the "Advanced Waite Series 200" as the outstanding combination diagnostic x-ray apparatus.



PICKER X-RAY CORPORATION
300 FOURTH AVENUE, NEW YORK, N.Y.

Gentlemen:

Please mail me your new Bulletin M-401 on the "Advanced Series 200".

Dr. _____

Address _____

PICKER X-RAY CORPORATION
WAITE MFG. DIVISION, CLEVELAND

